

SMOKE SIGNALS

For Radio Amateurs • By Radio Amateurs

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The travels of the 2000 Great Circus Train - and W9G

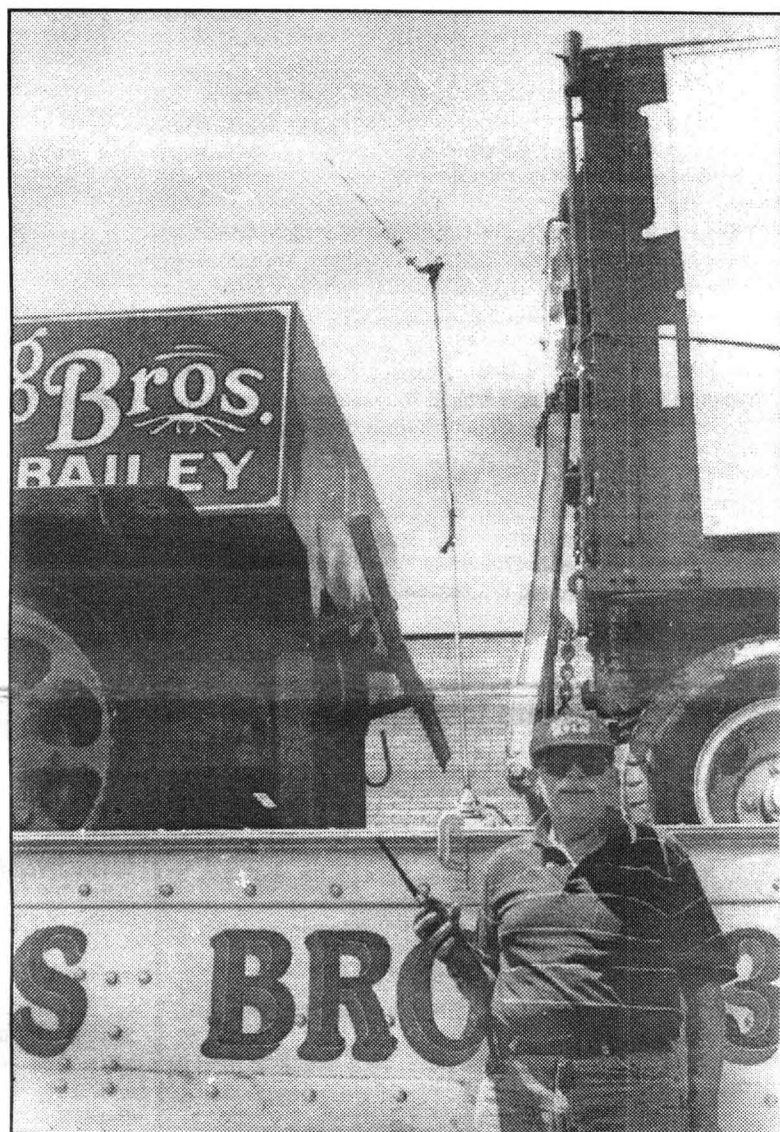
The special event station aboard the Great Circus Train this year used the call sign W9G. That call was selected to recognize the Gollmar Bros. Circus, one of three circuses which began in Baraboo. The others were Ringling Bros Circus and Deppe's Classic Country Circus. The Gollmar and Ringling shows, which began in the late 19th century, grew quickly to railroad circuses, while the Deppe circus operated at Circus World Museum in Baraboo for several seasons in the 1960s, and was a small show. The Deppe circus was owned by an early, major benefactor of the Museum, the late Wilbur Deppe of Baraboo.

The route this year was the same as in 1999, but was condensed into three days. Day One was from Baraboo to Waukesha, Day Two from Waukesha to Appleton, and Day Three was from Appleton to Milwaukee. The crowds at each stop were nothing less than enormous and seem to get bigger every year.

How did W9G/circus train mobile do? Considering that at least one and maybe two solar flares messed up propagation quite well, the train's station worked 38 states, 3 Canadian provinces, and a station which may have been in Baja California, Mexico. HF bands used were 20 and 40, with 20 being the most productive. We could usually work anyone we could hear.

Working under the leadership of Milwaukee County AREC, Inc. and project coordinator Bob Goldstein, all went quite smoothly. Bob, Tom Kucharski, KA9EWJ, and Jack McLeland, W9ATK, kept things humming at their communications station is the green Circus World Museum coach, using a combination of Amateur Radio, cell telephones, the Family Radio Service, and GPS, which was beamed to the "outside world" by the Amateur Position Reporting System (APRS). The train's APRS call was WB9HKE-9. That call belongs to Rick Strauss, who is also a volunteer conductor on the train.

Ron Armstrong, WB9WRW, drove the chase van, and chase he did. Using APRS, he knew within a few feet where the train coach was, and he was sending



Ernie Swanson, K9LO, Oshkosh, came to see the train and visit with the crew.

K9ZZ photo

APRS packets from the chase van as well.

The special event station's operator was Jim Romelfanger, K9ZZ, and relief was provided by Tom Kucharski, KA9EWJ, and Steve Polishinski, WB9-YSD. The HF rig used was a Kerwood TS-440S, provided kindly by Bill Hommell, KA9QFJ. For two meter FM, we used an Icom IC-27H. This year, very little activity was heard on our announced frequency, 146.55 MHz. But very little activity was heard. That's unusual.

The installation the night before departure was done by Steve Schulze, N9UDO, his son, Rich, and K9ZZ.

The ride back home for K9ZZ was given by Al Johnson, AA7CS.

We thank the Circus World Museum, especially Dale Williams, Greg Parkinson, Keri Olson, and Harold "Heavy" Burdick, for making this outreach possible. Thanks, too, to the good folks at Strong Capital Investments and to the crews of both Wisconsin & Southern and Wisconsin Central Railroads.

This year's train was the longest ever assembled. There were (I did not get a count) a lot of coaches from Wisconsin & Southern, Wisconsin Central, and Ogema Railroads. Add to that five CWM coaches and 18 double length flat cars carrying about 65 circus wagons and it's a long train, indeed.

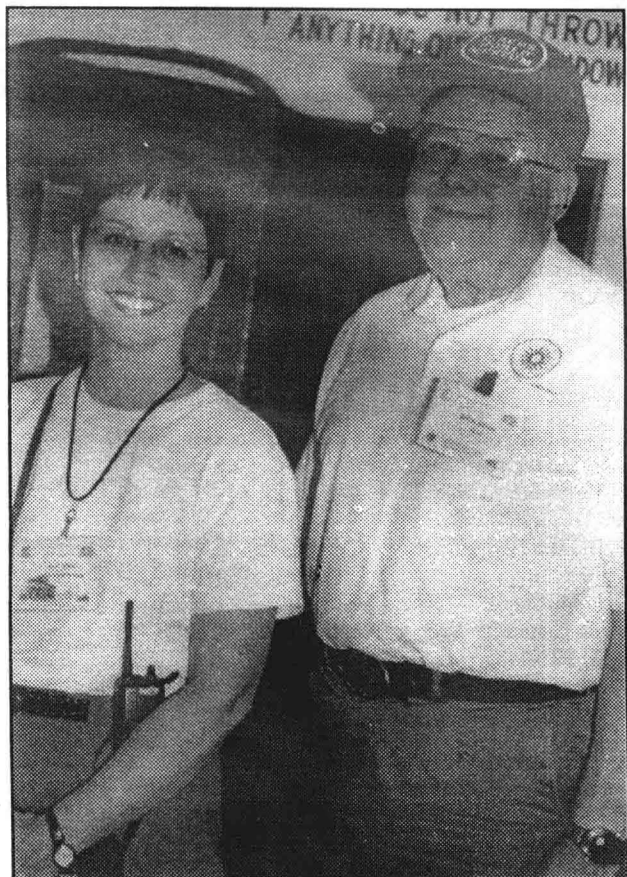
While a lot of hard work goes into the operation - the Milwaukee communications post and the special event station - a whole lot more hard work is invested by those people from CWM mentioned above and more, and by the two railroads involved. Somehow, some way, they do it every year. That's true dedication. It takes a lot to move a train.

And, special thanks to the West Allis Radio Amateur club for their help in getting W9G on track.

I hope I did not omit any credit. If I did, please email me at smokesigs@baraboo.com.

Finally, propagation, when it did work, was very selective. Roy Neal, K6DUE, who I worked, could hear a lot of stations calling W9G in the blind, but not hearing us. We did not hear them, either. Roy stayed with us for a while and that was a big help. Hopefully, we'll do this again in 2001, and we have a "game plan" in mind to work more stations. But we have about ten months to work out details. Meanwhile, back to the old routine.

Jim Romelfanger, K9ZZ



Keri Olson, CWM PR Director, posed for a photo with comm crew leader Bob Goldstein, K9KJT.

**Do you enjoy things spectacular?
Do you like lots of noise?
Do you have a healthy amount of scientific curiosity?
Then:
Check out the open house that's coming in September.
Details begin on page 6.**

**Photos in living color are at:
<http://www.bsrs.org>
Check us out - we're lookin' good!**

FLIPPING THE PAGES

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WHAT'S HAPPENING

Swapfests and Other Social Events — Club Meetings
Amateur Radio Exam Schedules

Edited by Kenneth A. Ebnetter, K9EN, 822 Wauona Trail, Portage, WI 53901
kebneter@palacenet.net

Swapfests And Other Social Events

SATURDAY, AUGUST 12, 2000 Circus City Swapfest Sauk County Fairgrounds, Baraboo, WI Circus City Swapfest Info

SUNDAY, AUGUST 6, 2000 Marshfield ARS Annual HAM-NIC Tenth annual picnic. Gather around 11 a.m. Potluck and swapfest in Wildwood Park, Marshfield, WI. Talkin: 147.180. Contact: Guy Boucher, KF9XX (715) 384-4323 Email: guyboucher@tzn.net Packet: KF9XX@W9IHW.E5.AI.WI.USA.NA

SATURDAY, SEPTEMBER 19, 2000 W9DXCC Convention and banquet Holiday Inn, Rolling Meadows, IL Web: <http://www.qth.com/w9dxcc>

SATURDAY/SUNDAY, SEPTEMBER 15-17, 2000 Peoria Swapfest 2000, Peoria, IL Contact: Peoria Superfest 2000, P.O. Box 3508, Peoria, IL 61612-3378. (309) 692-3378. Email: superfest@juno.com Web: <http://www.peoriasuperfest.com>

SATURDAY/SUNDAY, SEPTEMBER 23-24, 2000 Radio Expo 2000 Lake County Fairgrounds, Grayslake IL Contact: (708) 457-0966 Web: <http://www.chicagofmclub.org>

SATURDAY, OCTOBER 28, 2000 Hamfest Minnesota Saint Paul, MN Contact: P.O. Box 5598, Hopkins, MN 55343 (952) 535-0637

SATURDAY, JANUARY 6, 2001 29th Annual Midwinter Swapfest Waukesha Exposition Center Sponsored by the West Allis Radio Amateur Club <http://www.WARAC.org>

TUESDAY, FEBRUARY 27, 2001 Red Cedar Repeater Association Auction American Legion Post 53 634 Water St., Eau Claire WI Information: Steve Hart, KA9OMC (715) 665-2374.

SUNDAY, MARCH 4, 2001 SEWFARS Swapfest Waukesha Expo Center 8 a.m. to 2 p.m. Setup starts at 6 a.m. Talkin: 146.82 PL 127.3 Reservation deadline: February 23, 2001 Info: (262) 835-7035

SUNDAY, MARCH 11, 2001 Wisconsin QSO Party Sponsored by the West Allis Radio Amateur Club <http://www.WARAC.org>

SUNDAY, MARCH 25, 2001 NS9RCfest Formerly LA-MARSfest Lake County Fairgrounds Grayslake, IL Sponsored by North Shore Radio Club, Box 1066, Highland Park IL 60035 <http://www.ns9rc.org>

SATURDAY, APRIL 8, 2001 Madison Swapfest Mandt Community Center 400 Mandt Parkway Stoughton, WI Doors open at 8 a.m. Sponsored by MARA/W9HSY P.O. Box 8890, Madison WI 53708-8890 Info Line: (608) 245-8890

SATURDAY, MAY 5, 2001 Ozaukee Radio and Computer Swapfest 8 a.m. to 1 p.m. Circle B Recreation Center, Intersection of Highway 60 and County Y Info: Ozaukee Radio Club W55 N865 Cedar Ridge Drive Cedarburg, WI 53012

SATURDAY, JUNE 9, 2001 Eau Claire Amateur Radio Club Hamfest 2001 Information: Jim Staatz, KG9RA P.O. Box 1867, Eau Claire WI 54702-1867 Web: <http://www.ecarc.org> Email: w9eau@ecarc.org

SATURDAY, JULY 7, 2001. South Milwaukee ARC

Swapfest, Oak Creek, WI.

As a service to our readers, this section is available without charge to list your upcoming swapfest, hamfest, dinner, picnic, party or other event of interest to Radio Amateurs in Wisconsin and nearby areas. Send information on your event to Ken Ebnetter, K9EN at the address on page 2 or to kebneter@palacenet.net.

CLUB MEETINGS

We are not able to carry the complete listing of Wisconsin and area club meetings every month. Please save the following listing for your reference. The listing is also available on our web site bss.org.

ARROWHEAD AMATEUR RADIO CLUB, INC.
Superior, WI

Meetings: Second Tuesday at WITC Conference Center, 600 N. 21st St., Superior, WI. Time: 7:30 p.m. Board meetings held before regular meetings.

BADGER AMATEUR RADIO SOCIETY
University of Wisconsin - Madison/W9YT

Meetings: First Mondays at 7:30 p.m. in UW Union South. Information: Don Michalski, W9IXG, (608) 263-4685. Email: w9ixg@ar1.org. Web: <http://www.qsl.net/w9yt>.

BADGERLAND AMATEUR TELEVISION SOCIETY (BATS)

Check BATS Web page: <http://www.shopstop.net/BATS/>

CENTRAL WISCONSIN RADIO AMATEURS
University of Wisconsin - Stevens Point, WI

Second Wednesday.

EAU CLAIRE AMATEUR RADIO CLUB

Eau Claire, Wisconsin Meetings: 2nd Tuesday - 7 p.m., Eau Claire Parks & Recreation, 1300 First Ave., Eau Claire, WI 54703. All hams and guests welcome. W9EAU repeater 146.91 MHz, tone 110.9 Hz. Information: Jim Staatz, KG9RA, (715) 838-9108, or kg9ra@ecarc.org Web page: <http://www.ecarc.org>

FALLS AMATEUR RADIO CLUB, INC.
Menomonee Falls, WI

Meetings: Last Wednesdays at Bank One building in Germantown. Doors open 7 p.m. Meeting time: 7:30 p.m. Guests are welcome!

FOND DU LAC AMATEUR RADIO CLUB
Fond du Lac, WI

Meetings: Second Monday at Moraine Park Technical College, Fond du Lac, WI. Time: 7 p.m. Information: Gene Olig, KD9ZP, gaolig@pitnet.net Web: <http://personal.pitnet.net/FDLHAMS/>

FOUR LAKES AMATEUR RADIO CLUB
Madison, WI

Meetings: First and third Tuesdays, 7:30 p.m. Red Cross Building, 4860 Sheboygan Avenue, Room C, downstairs. First building west of Hill Farms State Office Building.

FOX CITIES AMATEUR RADIO CLUB

Meetings: Third Mondays, 7 p.m., Madison Junior High School, 2020 South Carpenter Avenue, Appleton, WI. Information: Chad at (414) 993-0485.

Badger State Smoke Signals Amateur Radio Education and Information

CHAIRMAN: Kenneth A. Ebnetter, K9EN, 822 Wauona Trail, Portage, WI 53901. Telephone (608) 742-3560. kebneter@palacenet.net

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TREASURER: Kenneth A. Ebnetter, K9EN, 822 Wauona Trail, Portage WI 53901.

EDITORIAL BOARD: Ken Ebnetter, K9EN; Don Even-son, K9JYX; Jim Romelfanger, K9ZZ.

Subscription Rate

1 year (12 issues) \$13.95

Subscription form is on page 5. Special club package reduced rates are available. For information, contact Ken Ebnetter, K9EN.

When to Send It

The closing date for each issue is the first of the month for the next month's issue. For example, the closing date for the June issue is May 1. The only exception is for participating clubs' minutes. Participating clubs are requested to send their material no later than FIVE DAYS after the club's meeting. For example, if a club meets on the 4th of the month, the material should be sent no later than the 9th of that month. This material is to be sent to the Editor.

Where to Send It

Address changes and corrections, and exchange papers should be sent to Ken Ebnetter.

Editorial material, photographs, and feature articles should be sent to Jim Romelfanger.

Inquiries about advertising should be directed to Ken Ebnetter.

Club, swapfest, and Test Point information should be sent to Ken Ebnetter.

Swapfest ADS should be sent to Jim Romelfanger NO LATER THAN EIGHT WEEKS BEFORE THE EVENT'S DATE.

Subscriptions should be sent, with check or money order, to Ken Ebnetter.

Conditions for Reprinting or BBS Posting Material from Badger State Smoke Signals

Permission is hereby granted to reprint articles or posting articles on radio or telephone bulletin boards from *Badger State Smoke Signals*, providing credit is given to the original author, publication in which the article first appeared, and to *Badger State Smoke Signals*. THIS CREDIT IS MANDATORY, AND NO MATERIAL MAY BE PRINTED OR POSTED UNLESS IT IS GIVEN.

This newspaper is produced by volunteer radio amateurs, and is non-profit. This newspaper is mailed from Portage, WI 53901.

Badger State Smoke Signals is incorporated as a Wisconsin non-stock, non-for-profit organization.

Editorial Disclaimer

The opinions expressed in editorials, guest editorials, columns, articles, and letters from readers are the opinions of the authors only, and do not, unless otherwise stated, express or imply endorsement by *Badger State Smoke Signals*, or by any other individual or organization.

QUARTER CENTURY WIRELESS ASSOCIATION (QCWA)
Wisconsin Chapter 55

Wisconsin Chapter 55 meets the first Saturday of June and October. For information about Chapter 55, contact Ron Yokes, W9BCK, Secretary, 612 N. Port Washington Road, Grafton, WI 53024-9703. (262) 375-1774. mailto:rryokes@execpc.com

QUARTER CENTURY WIRELESS ASSOCIATION (QCWA)
Southeastern Wisconsin Chapter 162

Meetings: Third Monday in January, March, May, July, September, and November, 7:30 p.m., usually at Meadows Restaurant, Franksville, WI. Social events: Third Sundays in February, April, June, August, and October. Christmas party: Usually second or third Sunday in December.

RACINE MEGACYCLE CLUB

Meetings: Second Mondays, 7:30 p.m., New meeting location to be announced.

RADIO AMATEURS OF WISCONSIN (R.A.W.)
Oshkosh, WI

Meetings: Third Saturday monthly, locations vary. "R.A.W. is a family oriented club. Most of its meetings revolve around family doings and outings. We are always looking for good people to join us. If you are a ham or interested in ham radio, contact Mark Miller, N9WT, (920) 231-1662, or Duane Ritschke, W9UDX, (920) 233-1684."

RED CEDAR REPEATER ASSOCIATION, INC.

Saturday coffee at Hardee's in North Menomonie, corner of Highways 12 and 25 at 9 a.m. Social hour on 4th Tuesdays at 7:30 p.m. at the Peppermill Too, 1414 9th Street in the L-Mart Shopping Center in January, March, April, and September through November. Guests welcome!

RIVERLAND AMATEUR RADIO CLUB
Onalaska, WI

Meetings: First Tuesdays, 7 p.m., Onalaska Community Center.

ROCK RIVER RADIO CLUB

Meetings: First Tuesdays, 7:30 p.m., Dodge County Administration Building, 127 East Oak Street, Juneau, WI. ARES Nets: 146.64 (-600) Mondays, 7:30 p.m., Saturdays, 7277 kHz, 10:30 a.m.

SHEBOYGAN COUNTY AMATEUR RADIO CLUB

Meetings: Second Tuesdays, 7 p.m., Sheboygan County Red Cross/Boy Scout Building, 2032 Erie Avenue.

SOUTH MILWAUKEE AMATEUR RADIO CLUB

Meetings: First Wednesdays, Legion Post 434, Shepard Ave., Oak Creek, WI. Auctions in March and October.

SPACE PLACE AMATEUR RADIO CENTER

No meetings. Located on U.W.-Madison campus. Guest operators are welcome to operate the U.W. Space Place Amateur Radio Station, N9UW. Information: Don Michalski, W9IXG, President, (608) 263-4685. Email: n9uw@sal.wisc.edu

St. CROIX VALLEY RADIO AMATEURS
Hudson, WI

Meetings: Third Tuesdays, St. Croix County Emergency Government Center, Carmichael Road, Hudson. Short business meeting at 7:30 p.m. followed by program. Talkin: 145.13 MHz. All are welcome!

TAYLOR COUNTY AREA AMATEUR RADIO CLUB
(TCAARC)
Medford, WI

Meetings: Usually first Thursday, 7 p.m. sharp. Usual location: Emergency Government meeting room/Red Cross Office, basement of Sheriff's Annex to Taylor County Courthouse, 2nd and Ogden Streets, Medford. Talkin: 147.15 (+600) MHz. Amateurs and guests are welcome. ARES Net: Wednesdays, 8:30 p.m., 147.15 (+600) repeater. Information: Mike Schoenfuss, N9GHZ, P.O. Box 401, Abbotsford, WI 54405. Phone: (715) 223-3996.

TRI-COUNTY AMATEUR RADIO CLUB

Meetings: Held at members' homes. Usually monthly on Sunday afternoon. Contact: Glenn Eisenbrandt, (414) 563-6502, or John Satterlee, (414) 5563-6381.

WASHINGTON COUNTY AMATEUR RADIO CLUB

Meetings: Second Thursdays, 7:30 p.m., Washington County Courthouse. Net: Thursdays, 7:30 p.m., 146.73 (-600).

WATERTOWN AMATEUR RADIO CLUB

Meetings: First Thursdays of month, 7 p.m., Watertown Public Library, 100 South Water Street.

WAUPACA AMATEUR RADIO CLUB

"CQ First Tue.": Social gathering and Dutch treat luncheon, King's Table, King, WI, on Highway QQ, just south of Highways 10 and 54, west side of Waupaca. Gather at 11 to 11:30. Order at noon. Club business transacted. "CQ Third Fri.": Social gathering and Dutch treat dinner. Semi-formal, OM and XYL, at one of the better supper clubs in the area. Check: Waupaca 147.39 nets at 8 a.m. or 8:50 p.m. for month's meeting location.

WEST ALLIS RADIO AMATEUR CLUB

Meetings: Second Tuesdays, 8 p.m., St. Peter's Episcopal Church, 7929 Lincoln Avenue, entrance is at rear of building on alley. Information: <http://www.warac.org>.

WISCONSIN RAPIDS AMATEUR RADIO CLUB

Meetings: Third Wednesdays, 7 p.m., Room 14 of Wood County Courthouse. Talkin: 146.79 (-600) for entry into the building.

WISCONSIN VALLEY RADIO ASSOCIATION
Wausau, WI

Meetings: First Tuesdays, 7:30 p.m. Location varies. Information: 146.64 (-600).

WISCONSIN ASSOCIATION OF REPEATERS

Quarterly meetings of the Wisconsin Association of Repeaters are held at various locations around the State on the second Saturdays of March, June, September and December. Check the WAR web page for meeting announcements and repeater coordination info. Information: <http://www.wi-repeaters.org>.

YELLOW THUNDER AMATEUR RADIO CLUB
Baraboo, WI

Meetings: First Tuesdays, 7:30 p.m., Room 18, Baraboo Civic Center at 124 Second Street. Information: <http://members.baraboo.com/sschulze>.

Notice: We are not liable for any errors, omissions, typographical errors, or misprints. Clubs are responsible for furnishing any changes or corrections which may be needed!

The Test Point



Amateur Radio Examination Locations and Schedules in the Wisconsin Area

We are not able to carry the complete listing of exam information and location directions every month. Please see the July 2000 issue of BSSS or our web page bsss.org for more information.

| | |
|--------------------|----------------------|
| August 03, 2000 | Oshkosh (Omro), WI |
| August 03, 2000 | St. Paul, MN |
| August 10, 2000 | Apple Valley, MN |
| August 12, 2000 | Blaine, MN |
| August 12, 2000 | Madison, WI |
| August 15, 2000 | Eden Prairie, MN |
| August 19, 2000 | Bloomington, MN |
| August 19, 2000 | Cottage Grove, MN |
| August 19, 2000 | Loves Park, IL |
| August 19, 2000 | Milwaukee, WI (BE) |
| August 19, 2000 | Milwaukee, WI (MRAC) |
| August 19, 2000 | Tomahawk, WI |
| September 02, 2000 | Oshkosh (Omro), WI |
| September 02, 2000 | Racine, WI |
| September 02, 2000 | St. Paul, MN |
| September 09, 2000 | Appleton, WI |
| September 09, 2000 | Blaine, MN |
| September 09, 2000 | Madison, WI |
| September 14, 2000 | Apple Valley, MN |
| September 16, 2000 | Cottage Grove, MN |
| September 16, 2000 | Loves Park, IL |
| September 16, 2000 | Milwaukee, WI (BE) |
| September 16, 2000 | Onalaska, WI |
| September 16, 2000 | Sheboygan, WI |
| September 19, 2000 | Eden Prairie, MN |
| September 23, 2000 | Bloomington, MN |

| | |
|--------------------------------------|----------------------|
| September 30, 2000 | Milwaukee, WI (MRAC) |
| September 30, 2000 | Tomahawk, WI |
| October 07, 2000 | Oshkosh (Omro), WI |
| October 07, 2000 | Racine, WI |
| October 07, 2000 | Eau Claire, WI |
| October 07, 2000 | St. Paul, MN |
| October 12, 2000 | Apple Valley, MN |
| October 14, 2000 | Blaine, MN |
| October 14, 2000 | Eau Claire, WI |
| October 14, 2000 | Madison, WI |
| October 17, 2000 | Eden Prairie, MN |
| October 21, 2000 | Cottage Grove, MN |
| October 21, 2000 | Loves Park, IL |
| October 21, 2000 | Milwaukee, WI (BE) |
| October 28, 2000 | Bloomington, MN |
| October 28, 2000 | Milwaukee, WI (MRAC) |
| October 28, 2000 | Tomahawk, WI |
| November 04, 2000 | Menomonie, WI |
| November 04, 2000 | Onalaska, WI |
| November 04, 2000 | Oshkosh (Omro), WI |
| November 04, 2000 | Racine, WI |
| November 04, 2000 | St. Paul, MN |
| November 05, 2000 | Kaukauna, WI |
| November 11, 2000 | Blaine, MN |
| November 11, 2000 | Madison, WI |
| November 14, 2000 | Apple Valley, MN |
| November 18, 2000 | Cottage Grove, MN |
| November 18, 2000 | Loves Park, IL |
| November 18, 2000 | Milwaukee, WI (BE) |
| November 21, 2000 | Eden Prairie, MN |
| November 21, 2000 | Sheboygan, WI |
| November 25, 2000 | Bloomington, MN |
| November 25, 2000 | Milwaukee, WI (MRAC) |
| November 25, 2000 | Tomahawk, WI |
| December 02, 2000 | Oshkosh (Omro), WI |
| December 02, 2000 | Racine, WI |
| December 02, 2000 | St. Paul, MN |
| December 02, 2000 | Eau Claire, WI |
| December 09, 2000 | Blaine, MN |
| December 09, 2000 | Madison, WI |
| December 14, 2000 | Apple Valley, MN |
| December 16, 2000 | Cottage Grove, MN |
| December 16, 2000 | Loves Park, IL |
| December 16, 2000 | Milwaukee, WI (BE) |
| December 19, 2000 | Eden Prairie, MN |
| December 23, 2000 | Bloomington, MN |
| January 27, 2001 | Appleton, WI |
| Monthly, 1st Sat. | Racine, WI |
| (except January, July & August) | |
| Monthly, 1st Sat. | Oshkosh (Omro), WI |
| Monthly, 1st Sat. | St. Paul, MN |
| Monthly, 2nd Thu. | Apple Valley, MN |
| Monthly, 2nd Sat. | Madison, WI |
| Monthly, 2nd Sat. | Blaine, MN |
| Monthly, 3rd Tue. | Eden Prairie, MN |
| Monthly, 3rd Sat. | Milwaukee, WI (BE) |
| Monthly, 3rd Sat. | Loves Park, IL |
| Monthly, 3rd Sat. | Cottage Grove, MN |
| Monthly, 4th Sat. | Bloomington, MN |
| Monthly, Last Sat. | Milwaukee, WI (MRAC) |
| (except December) | |
| Monthly, Last Sat. | Tomahawk, WI |
| (January thru October only) | |
| Quarterly | Eau Claire, WI |
| (Second Saturday Jan., Apr., & Oct.) | |
| plus annual summer hamfest.) | |

GENERAL RULES FOR MOST EXAMINATIONS Be sure to check with sponsors before going to an examination session. There may be changes and/or errors in the dates or information given. Some examinations require filing an FCC or NCVEC Form 605 and advance registration at least 30 days before the exam date.

Some VE teams permit walk-ins. Check with the sponsor. Many hamfests and swapfests offer examinations. A hamfest entrance fee should not be charged if you come only to attend the examination. To register in advance, you must get a copy of the current FCC Form 605, and fill it out completely and correctly. Got your form from the FCC as instructed below, or from the American Radio Relay League, 225 Main Street, Newington, CT 06111. Please send an SASE if you request a form from the League. FCC Field Offices seldom stock forms. You can also get a form from:

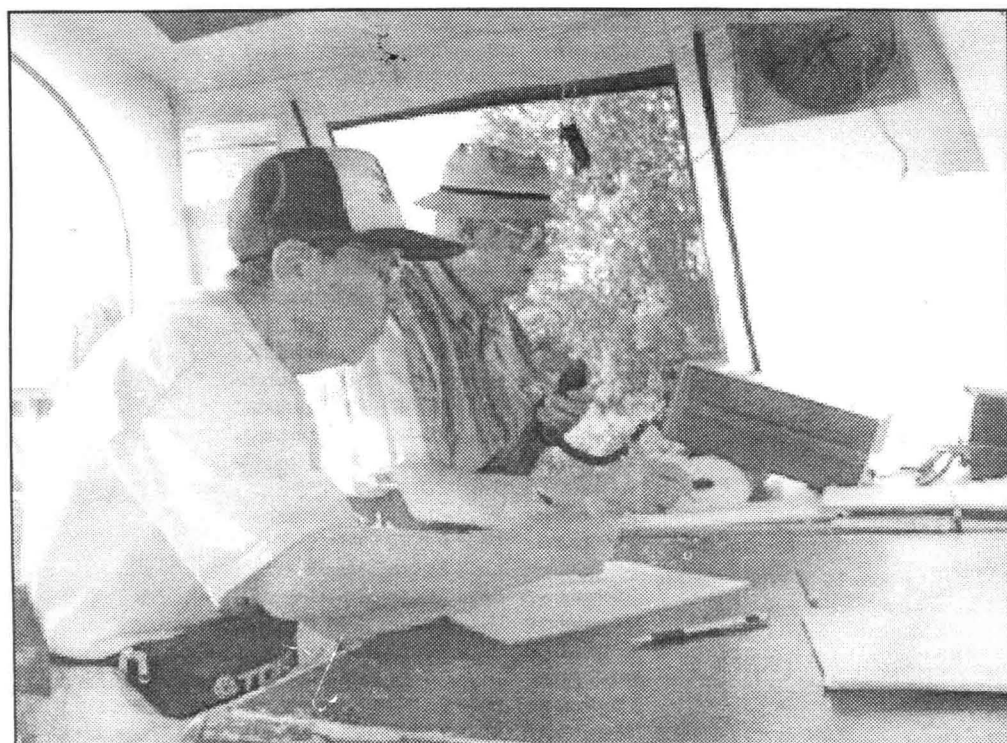
<http://www.fcc.gov/formpage.html> or <ftp://ftp.fcc.gov/pub/Forms/Form605>.

A form by FAX is available at (202) 418-0177 (request Form 000605). The FCC Forms Distribution Center will accept orders at (800) 418-3676. Form 605 has a main form, plus a Schedule D with two parts (for Vanity and Physician's Certifications). Forms can also be obtained from the sponsoring group. ARRL/VEC examinations require a check for \$6.65 payable to "ARRL/VEC". Exam fees change annually. See QST, WIAW bulletins, or The ARRL Letter regarding any annual exam fee changes. As of April 15, 2000, ARRL/VEC no longer gives a free code test or Element 2.

Test fees: The FCC has announced that the maximum Amateur Radio examination fee reimbursement that Volunteer

(Continued on page 11)

QCWA Southeastern Wisconsin Chapter 162 does Field Day



In the photo above, Fern Fisher, W9LCJ, logger, tries hard to stay ahead of the rapid-fire pace of the contacts that Bob Jensen, W0WLN, is making on 15 meter SSB. At top right, Dan Miller, KA9OIL, hand rotates (the "Armstrong" method) his satellite beam antenna array to try to make some space-age Field Day contacts. Carefully supervising Dan's work - but staying a discreet distance - is Herb Ladwig, W9PHJ. It's hard work, but someone's gotta do it.



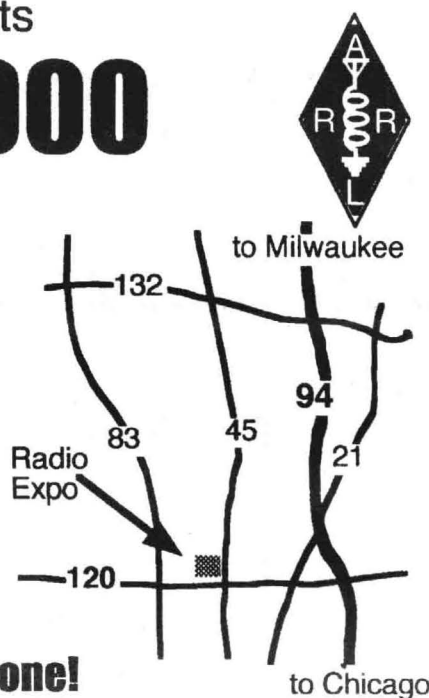
Photos courtesy Larry McCalvy, WA9JMO

WA9ORC/R



Grounds Open from
Thursday at noon
Flea Market open
both days at 6 AM
Exhibit Buildings open
Sat 8 AM to 4 PM
Sun 8 AM to 3 PM

The Chicago FM Club presents
RADIO EXPO 2000
SEPTEMBER
23rd & 24th
LAKE COUNTY
FAIRGROUNDS
RTS. 45 & 120
GRAYSLAKE IL



Radios | Computers | Electronics for everyone!

Newest amateur equipment from major manufacturers
Computer hardware and software by leading distributors
3 large buildings (over 40,000 sq ft) for indoor flea market tables
Hundreds of outdoor flea market sellers filling the fairgrounds
Advanced tickets \$6 - At the Gate \$8- Good both days - Kids under 12 free
FREE PARKING - Outdoor electrical hookups available - FREE CAMPING
VEC testing both days

Interesting forums presented both days
Talk-in on the CFMC repeater 146.16/76 MHz (107.2 Hz PL)
Ladies program - Arts and crafts
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Russian crew quarters module docks with ISS

Zvedza has ARISS antenna ports

The Russian-built and launched Zvedza ("star") module for the International Space Station was lofted into orbit by a Russian Proton rocket, and recently docked itself with the two modules currently orbiting the earth. The docking was done with no human presence and was successful.

The antenna ports for Amateur Radio on the International Space Station are on the newest module, and lead to the beginning of ARISS: the Phase 1 Amateur Radio station. The ham gear will be taken to the ISS aboard the shuttle mission - STS-106 - set for liftoff in September.

The initial station will include 2-meter and 70cm Ericsson hand-held radios (5 - 6 watts output), a Pac-Com pico-packet TNC, a specially developed David Clark headset, a signal adapter module, specially developed radio power adapters, and the interconnecting cabling.

The antenna systems that the Italian/Russian/US team are ready, but cannot be installed (by EVA) until later next year. In the meantime, the ARISS international team has gotten permission to use the Zarya ("dawn-ing") Sirius antennas on 2 meters.

STS-106 is currently scheduled to launch on September 8.

The first crew will arrive around October 30. One aboard, they will connect the hardware to the Sirius antenna and set up the station. The crew will be launched on a Soyuz and will dock with the ISS.

This has been an effort that has required

QCWA/Southeastern
Wisconsin Chapter 162

Recognition of Excellence Award for 1999

By Larry McCalvy, WA9JMO

Each year, Quarter Century Wireless Association Southeastern Wisconsin Chapter 162 searches the communities around southeastern Wisconsin looking for the one person that they feel epitomizes the true meaning of Amateur Radio.

For 1999, Chapter 162 has selected Fern Fisher, W9LCJ, as the fifth recipient of The Olin Fox K9AKG Recognition of Excellence Award. The award is inscribed:

For unwavering dedication to sustaining the community support objectives of Amateur Radio, the Southeastern Wisconsin Chapter #162 of the Quarter Century Wireless Association is pleased to present this award.

Fern V. Fisher, W9LCJ is a founding member, the current secretary, and a control operator of the Lakeshore Repeater Association. She is a past director of QCWA's Chapter 162, a participant in their annual Field Day and a volunteer communicator for Racine Lutheran High School's annual Walk-a-Thon. Fern is one of those rare individuals who are just naturally



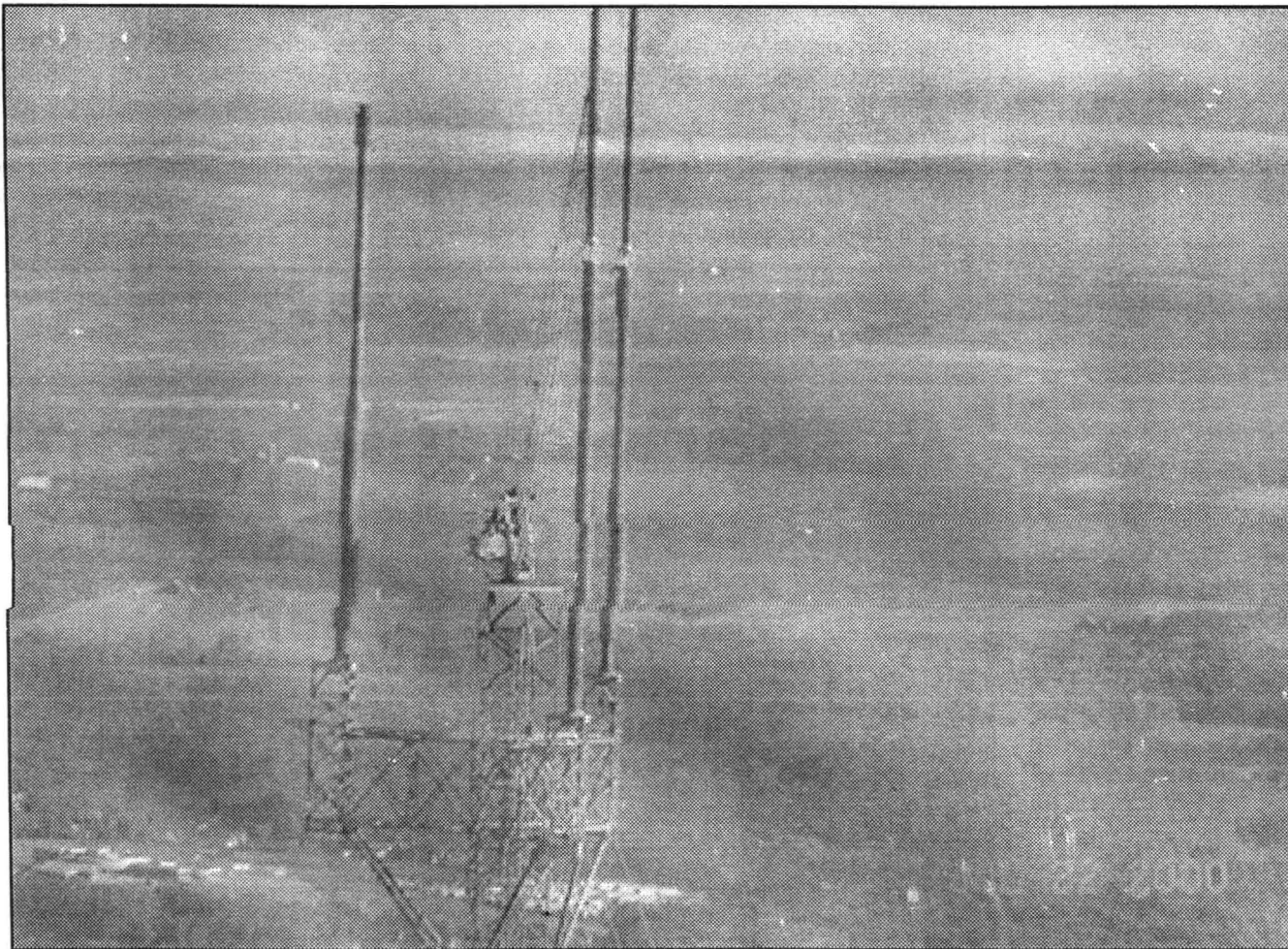
Fern Fisher, W9LCJ, left, receives her award from Larry McCalvy, WA9JMO.

Photo courtesy Larry McCalvy, WA9JMO

likable.

Always cheerful, she finds time to help with Ham Radio demonstrations and other community communication events; she sets an outstanding example of what most of us consider an Amateur Radio Operator should be. Fern is also an active Volunteer Examiner for the local ARRL Licensing test team. Few local Hams give as much so willingly to Amateur Radio and their community.

We are happy to recognize her contributions.



The bird's eye view

The photo above was taken the weekend of July 22 and 23. It's the new HDTV tower on Rib Mountain near Wausau. The crane is attaching the Channel 24 (HDTV) antenna to the top of the Channel 20 antenna. The Rib Mountain Repeater Association's 146.82 repeater antenna system and UHF repeater antennas will be about half-way up the tower. The TV transmitting antennas are horizontal polarization, traveling wave designs. They're also called "slot" antennas. Those antennas are heavy; Channel 20's is 61.4 feet long, and weighs in at more than 20,000 pounds. Another, Channel 7, is 18,000 pounds, and the Channel 9 HDTV antenna is a featherweight at just 13,500 pounds. Thanks to Paul Nelles, K9DB, for sending this photo.

Photo by
Captain Rick Bowe,
Wausau Squadron, Civil Air Patrol

Lost hand-held at Racine

During the Racine Megacycle Club's Field Day activities at the Racine Red Cross building, a Kenwood hand-held model THG71A, serial number 300279, belonging to Greg Holding, KB9RMA, was apparently picked up by someone who was visiting or working the club event. If you attended this function, please check to see if you were the person who may have accidentally taken the HT. If you locate the missing HT or know who might have it, please contact Greg by email at <greg@twtelecom.net> or give me a call on Lakeshore's Repeater, 147.270/870. I may also be reached by telephone at (262) 639-7327. Thanks.

Larry McCalvy, WA9JMO

Conducting his business



Rick Strauss, WB9HKE, is a man of many hats. He's a ham, does lots of other things, and he's a conductor on the Great Circus Train. He's shown here in full regalia. He also extinguishes fires under rail coaches if he's nearby. He indeed was nearby when a 480 volt/3-phase line under a Wisconsin & Southern coach flashed and started a minor fire while in the Baraboo rail yard; Rick grabbed an extinguisher and had the fire out quickly, with two small burns on his hands to show for his effort. Rick also configured the train's APRS/GPS gear.

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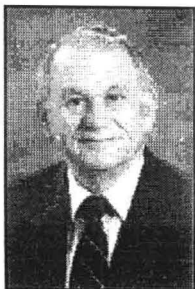
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AUGUST 2000

The Computer Corner

By Stan Kaplan, WB9RQR • 105 Martin Drive
Port Washington, WI 53074-9654
(262) 284-9346
skaplan@mcw.edu



No. 81: MODEMS

Modems are pretty much standard equipment on today's computers. They are amazing devices. Computers, of course, are digital devices and understand only zeros and ones. When they send digital data to your modem for subsequent transmission over the phone lines, the modem converts the digital data to analog tones, much like the conversion done by a sound card when you play music recorded digitally on a CD. After conversion is complete, the tones are sent out over the phone line, received at the other end by another modem, and converted back to digital data so the receiving computer can understand the data. The process of converting digital data to analog by the modem at your end is called *modulation*, and the process of converting it back to digital stuff at the other end is called *demodulation*. Hence the name MODEM for the device: *MO*dulate*DE*modulate.

When two modems first connect with each other over the phone lines, it is a little bit like two people from different countries trying to establish communications. A Frenchman might say "Parlez vous Francais?" and the other person might reply "Nein, Ich sprechen das Deutsch". Then the Frenchman says "I can also speak English; can you speak it?" The German then replies "Yes, I can speak and understand English". The two humans have been negotiating the rules of communication between them. When modems do this it is called "handshaking", or "training". When modems handshake, they are deciding on several different issues:

1. How fast to transmit and receive data between each other.
2. What protocols to use, including:
 - a. How to handle data compression
 - b. How to handle error checking.
3. What signaling method to use to pass the data between each other (flow control).

That's a lot to agree on! But they generally agree on everything in just a couple of seconds. You can hear them start negotiating these different items when your modem first connects with the remote modem, but the handshaking continues for a few seconds even after your speaker turns off.

SPEED: The first item, speed, is something most of us care about dearly. Today's modems are rated in bits per second (BPS), and higher is better. Most modems you purchase today are rated at 56.6 KBPS, the current theoretical upper limit for data transmission over ordinary phone lines. However, you will not quite achieve that rate of data transfer. Why? For several reasons which are grounded in the basic fact that everything going over your phone line, including your voice during a standard telephone call, is fake!

When you talk into the phone with a friend, the person at the other end is not hearing your voice. "Of course", you say, "they are hearing the analog squiggly sine wave reproduction that the speaker element in my phone makes". Nope. They are hearing a signal that has been converted from analog to digital and back at least a couple of times.

Just the way a sound card can change music from your tape recorder to digital data for storage on your hard drive and later playback, the phone company changes your beautiful analog voice tones into digital data, somewhere along the line. Then it transmits the digital data over the long haul distance to somewhere near your friend's house. Then it is converted back into an analog signal and sent to your friend's phone. This conversion from analog to digital may even occur several times, depending on the particular path your signal takes, and it can occur even if your friend lives next door. All this conversion takes time, and reduces the effective communication rate even more. But now, let's see the numbers.

When the phone company changes your analog voice to digital, they use a sampling rate of 64 KBPS (64,000 kilobits per second). Take off a few thousand bits per second for overhead - a conversion or two or three. Also take off some bits for noisy lines (moisture,

storms), which are not uncommon. Also take off some time for multiplexing - the sharing of several logical phone connections on a single physical twisted pair. All of these factors eat up time, so it is easy to drop down to the 56.6 KBPS rating of your modem. The upshot is, using today's technology, a 56.6 KBPS modem will let you send and receive stuff at an upper limit of just about 53 KBPS under ideal conditions when ordinary phone lines are used. The latest standard, V.90, may bump the rate up a little bit when one end is using a digital connection, as is probably the case with your Internet provider. The digital end feeds digital data directly to the phone companies lines, so it doesn't need to be converted first.

Now let us see what the other handshaking protocols do. The most widely used protocol today is CCITT (or ITU) V.42bis, which sets standards for both data compression and error correction. We'll consider them separately.

Data compression is good because it reduces the size of what is being transmitted. Your modem compresses chunks data into packets using an algorithm very much like PKZIP. Textual material may be compressed as much as 4:1 - a 100-byte chunk reduces to only 25 bytes. That means that 75 bytes don't need to be transmitted over the phone lines. At the other end, since the receiving modem has already agreed to use V.42bis also, it simply decompresses the file using the same algorithm, and the 75 bytes are restored.

Error correction is another neat feature that insures virtually 100% accuracy of the data being transmitted. Your modem breaks up the data into packets known as frames and calculates a checksum for the frame. A checksum is just a summary calculation that is based on the data in that frame, for example adding up a simple numerical total of all the binary values in the frame. When the modem at the other end receives the frame, it goes through exactly the same calculation, then compares it's results with the results your modem sent. If they are exactly the same, it knows the data was accurately transmitted. If there are differences in the two checksums, the receiving modem asks for the frame to be sent again. Sound familiar at all? You bet! We use the same type of technology in our TNCs for packet radio.

Flow control is a way for the two modems and their computers to start and stop the flow of data in case the receiving end is not ready for more. Most setups today use **hardware flow control**. When a receiving modem gets a message from it's PC to wait a little bit so it can catch up with stuff; the modem just deactivates the line between it and the sending modem. That forces the sending modem to wait, which it dutifully does until the line is reactivated. The older, **software flow control** was used back when mostly ASCII was sent between computers. It doesn't work so well with today's data and today's speeds.

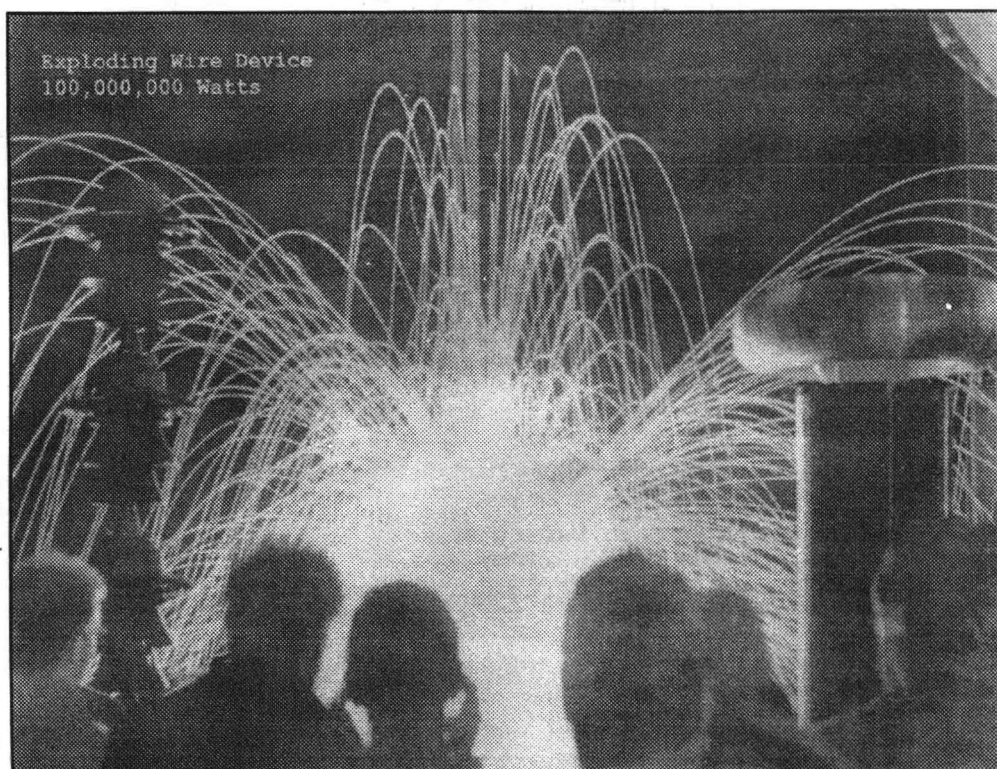
Other stuff. The two modems also have to decide on a few more things. Back when modem to modem communication was in pure ASCII format, all the characters in use could be represented by only 7 bits, and the 8th was used for parity checking - an older method to detect errors. Now that we send more than just ASCII characters, 8 bits is the standard, and we leave error correction up to the modem as described above. One last item. When a modem is going to send a character out, it first sends a single bit that tells the receiving modem that a character is starting. Modems also usually send a single stop bit, which signals that the character is complete. The two modems need to agree on all this stuff, too, before they actually begin the sending/receiving process.

So there you have it. Those two modems are really talking fast at the beginning of a connection, to decide on all these parameters between them. Think about that next time you dial up your Internet connection for an evening of web surfing!

Happy computing.

Reprinted, by permission, from the ORC Newsletter, Ozaukee Radio Club (Ted Schweitzer, KB9RLI, Editor, 126 Lilac Lane, Belgium, WI 53004. <theo@execpc.com>).

A spark-tacular open house coming in September



Resonance Research Corporation, owned and operated by D.C. Cox of rural Baraboo, has scheduled an open house on Wednesday, September 20, from 6 to 10 p.m. at the production facility between Baraboo and Lake Delton.

The company manufactures "industrial strength" high voltage equipment, such as 12 megavolt Tesla coils, for displays and for various

research facilities in the U.S. and around the world.

The above photo shows what happens when a 100 microfarad capacitor, charged at 20,000 volts, is discharged through a piece of #26 AWG copper wire in 750 picoseconds.

The public is welcome to attend. Another photo, and a map, are on page 9 of this issue.



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PARTICIPATING CLUBS AND ORGANIZATIONS

Taylor County Area Amateur Radio Club

Mike Schoenfuss, N9GHZ, President

P. O. Box 401

Abbotsford, WI 54405

MEETING ANNOUNCEMENT

The next regular meeting will be held on Thursday, August 3rd starting at 6 p.m. at the residence of Rolly Sacho, N9UBQ, N 2302 Sunset Drive, Medford, WI. Directions: Take CTH O west off of STH 13 at the south edge of Medford. Proceed west to Sunset Drive and turn south onto Sunset Drive. Talk-in on the 147.15 Medford repeater (+ 600 kHz offset, 114.8 PL) or 146.52 MHz simplex.

MEETING AGENDA/PROGRAM

A short business meeting will be held in conjunction with the annual club picnic. Note the earlier starting time (6 p.m.). Bring your own meat for the grill, beverages, eating utensils and a dish to pass (salads, desserts, pickles, chips, etc.). Spouses, significant others and potential new ham radio operators are welcome and invited to attend, too.

Agenda for the meeting includes the following:

→ Belated elections for 2000 club officers. The 1999 officers have been serving, unofficially, in their same capacities this year so far and include N9GHZ-President, AA9LE-Vice President and N9UBQ-Treasurer. Also, we are still without an officially elected club secretary.

→ The 3rd Annual J.A. O'Leary Memorial Bike Race and Tour is scheduled for Saturday, August 19th, and we will most likely be asked to once again provide radio communications services for this event. The race coordinator(s) are being invited to attend our August meeting/picnic, to iron out last minute details.

→ Ongoing RFI problems with the 147.15 Medford repeater will likely be a topic of continued discussion.

TAYLOR/CLARK COUNTY AMATEUR RADIO EMERGENCY SERVICE (ARES) NEWS

Mike Schoenfuss, N9GHZ
ARES Emergency Coordinator

→ Don't forget to try to check into the weekly ARES net held Wednesdays at 8:30 p.m. on the Medford repeater (147.75/147.15). If the repeater is down or not functioning properly, alternate frequencies, in order, are 147.15 MHz simplex and 146.52 MHz simplex. You're also encouraged to volunteer for net control duty for the net.

→ The 3rd Annual J.A. O'Leary Memorial Bike Race and Tour is scheduled for Saturday, August 19th, and we will most likely be asked to once again provide radio communications services for this event. Please mark your calendars now and try to keep this date open. Many operators will be needed for this big event. The race starts at 10 a.m. from Medford, proceeds north to the Mondeaux Dam picnic area and then back to Medford.

→ A simulated ARES/SKYWARN net was held on the 147.15 Medford repeater on 4/13/2000 in conjunction with a statewide tornado drill on that day, as part of Wisconsin's annual Severe Weather Awareness Week. N9GHZ acted as net control station. Check-ins were WB0HMS, Medford; KE4FE, Rib Lake; and N0GMJ, Ogema. Two of the three check-ins were using emergency power sources.

CONGRATULATIONS TO:

© Louis Young, KA9UXN, Colby, who upgraded from Technician Plus to General Class following the FCC's restructuring of the Amateur Radio service on 4/15/2000. Enjoy your new privileges, Louie!

OTHER NEWS

REMAINING 2000 TCAARC CLUB MEETINGS: At the July, 2000 club meeting, it was voted to change the monthly club meetings from the 1st Thursday of the month to the 1st Wednesday of the month, for the remainder of this year ONLY, starting with the SEPTEMBER club meeting. In January, 2001, meetings will again be held on the 1st Thursday of the month. The meeting time remains the same: 7:00 p.m.

ANTENNA WORK: The end of June and start of July was a good time for antenna and tower work in the Clark and Taylor County areas.

On the evening of June 29th, a group of hams gathered at the N9QWB residence in Owen to put up a new 2-meter antenna on the roof of his house. Among those assisting were KA9UXN, AA9LE, N9GEN and KB9LIU. My apologies to anyone who was missed.

On Saturday, July 1st, work was done at two locations. At the home of N9UBQ, rural Medford, an old CB antenna was removed from the roof of his garage. Assisting were N9GHZ, N9GEN and AA9LE. Following that, N9GHZ, N9GEN, AA9LE and KB9RBL reported to the residence of Robert key W9QHI in Medford. At the request of his widow, a 2-meter J-pole antenna and HF dipole were removed from the tower and house and garage roof, along with other miscellaneous hardware.

Thanks to all who pitched in to help out!!!

AMATEUR RADIO LICENSE CLASSES/VE EXAM SESSIONS RESULTS

N9GHZ conducted a Technician Class Amateur Radio license exam preparation course at Medford, which started on Feb. 28th and concluded on May 15th. There were a total of 5 students, all of who went on to pass their exams and earn a license or upgrade. Congratulations to the following:

- ✓ Desilyn Tyznik, Colby, Technician Class license, KB9WNV
- ✓ Alan Tyznik, Colby, Technician Class license, KB9WNU
- ✓ Kenneth Tyznik, Thorp, Technician Class license, KB9WNV
- ✓ Dean Hommel, Medford, Technician Class license, KB9WNZ
- ✓ Neal Zuleger, KB9IQP, Medford, upgrade from Novice to Technician Plus

The TCAARC VE team conducted an exam session on 4/8/2000 in Medford. Among those taking exams was Bob Braun, KB9BLV, Dorchester, who passed the General Class written exam. Congratulations, Bob! VE's participating in this exam session were: N9GHZ, N9GEN and AA9LE.

The TCAARC VE team conducted another exam session on 5/20/2000 in Medford. VE's participating in this exam session were: N9GHZ, AA9LE and AG9G. Bob, KB9BLV, Dorchester, completed the paperwork required to upgrade from Technician Plus to General Class. Also successfully testing at this session were KB9WNV, KB9WNU and KB9WNV.

At the VE exam session conducted on 5/27/2000 at Tomahawk, KB9WNV earned his Technician Class license and KB9IQP upgraded from Novice to Technician Plus.

N9GHZ is presently conducting a 5 WPM Morse Code exam preparation course at Medford, which started on June 26th and will conclude on September 11th. There are 4 attending the classes: N9UBS, KB9RBL, KB9WNV and N9QWB.

* Rolly Sacho, N9UBQ, Medford, has a homepage on the World Wide Web: <<http://209.185.12.35/teachers/rollysacho>>. Check it out! (It's down at the time of writing.)

* A new 2-meter repeater is on the air from Timm's Hill, near Ogema. Call sign (and sponsor) is N0GMJ. Frequency is 147.09 (+600 kHz offset with 114.8 PL).

147.15 MEDFORD REPEATER WOES

Back in about February or March of this year, reports were being received of apparent problems with the repeater.

One problem being reported by several area hams was that they were having problems with accessing the repeater's autopatch. Yet, other hams had no problem at all. This problem was eventually traced to two sources. One of these was a programmed setting on the repeater's controller, which has since been changed. The other had to do with the documentation provided to club members for using the autopatch. This documentation contained a potential error which will be corrected, and new documentation will be issued to all current club members in the near future.

The other problem is a noticeable, but intermittent, degradation in the sensitivity of the repeater's receiver. Stations that should normally be

Lakeshore Repeater Association

147.270 MHz • Racine, Wisconsin

Larry McCalvy, WA9JMO • 5400 Six Mile Road

Racine, WI 53402-9741

wa9jmo@wi.net

To further enhance Southeastern Wisconsin's ability to handle Amateur Radio emergency communication when and if needed, Lakeshore Repeater Association has established an Amateur Radio Emergency Service (ARES) fund account. As a 501 (c) 3 Federal Tax Exempt organization, any money (or in kind service) donated to Lakeshore and earmarked for ARES qualifies as a full valued tax write off. The donations will be used to purchase portable packet stations, VHF transceivers, and other items necessary to allow ARES to carry out its tasks, when called upon, in a manner most expedient to the safety and welfare of our community's residents and their property.

Our planned 440-system move to a new tower location is in a holding pattern. We have not, as yet, been able to work out an acceptable agreement with the tower's owner. We will continue to try; but if it

proves to be unfruitful, we will move on to another location.

Meeting notices for the July meeting moved a step closer to the electronic age when the notice was sent by email to 90 members. Sixty-one, at this writing responded back as requested that they had received and read the message. The balance of our membership received the normal postcard reminder.

The last meeting of year in October corresponds with our annual election. All four-officer positions are up for reelection. I will appoint a nomination chairperson and two committee members during our July 25, 2000 meeting. Their nomination will be made known to the Board of Directors by September 1st and the candidate's names will be sent with the meeting notice in early October.

73, Larry McCalvy, WA9JMO, President

Quarter Century Wireless Association Southeastern Wisconsin Chapter 162

Larry McCalvy, WA9JMO
5400 Six Mile Road
Racine, WI 53402



Field Day 2000 in Southeastern Wisconsin was a fine example of why this is an annual event. Equipment 12-months in storage failed to operate as well as it was remembered to have performed in 1999. Antennas, perfectly matched when they entered storage, emanated enough standing wave this past June when their former finely tuned transmitters were powered up to hide a battleship.

A 20-meter Isotron antenna standing tall 30 feet over the transceiver last year netted 44 CW contacts; this year the optimum operating elevation was 30 inches. Our lone CW operator, Al Algiers, W9HR, made 88 QRP solar power charged battery contacts. Al said he worked almost everyone he heard. A SWR of 1:1 was achieved with two Hams standing on the sides of the Isotron with one lifting an arm to 90 degree. Since this seems like an impossible task to continue, we let Al negotiate through 2:1 SWR contacts.

Operating 3A QRP during the daylight hours we had a grand time. Homemade sandwiches, pop, donuts, fruit, cookies – all life's staples – nourished our bodies as we meandered across the bands seeking contacts. The rains came, the insects bit and the winds howled (well maybe just a little bit), but our steady, dedicated operators operated almost until it got dark. Nighttime is for sleeping.

We again assaulted the airwaves early the next morning. It must have been close to 9 a.m. when the gang fired up our heavy-duty power for the day's run against the standing 3A record for contacts. The group operated 20-meter CW, 10 and 15-meter phone, 2-meter sideband, and attempted several

unsuccessful Satellite contacts. At 1800 hours Zulu on Sunday we struck the Field Day camp site. And by 1830 hours we were gone.

Our other June activity was the chapter's annual mosquito bash held at the home of Ken (N9NBC) and Marbeth Knoff. A dish was brought to pass, each cooked their meat of choice and the Knoffs provided the mosquitos. This year's crop exceeded all the previous years combined total. I speak from experience, as most of these vampires selected me for their meal. I had a quick re-supply at the local blood bank on the following Monday.

July is free of chapter activities as we await the annual picnic in August. I can almost taste the charcoal-grilled corn on the cob as I sit here writing.

73, Larry McCalvy, WA9JMO, President

Kenwood Tone Board Wanted

WANTED: Kenwood TU-8 tone board for Kenwood 690. You got at the right price, I buy. Guy Boucher.

<guyboucher@tznnet.com>

full quieting into the repeater at all times would suddenly and inexplicably start to fade out until there was nothing but background noise. Then, on their next transmission, they'd be back to full quieting signals. At the same time, a strange noise would break the squelch on the repeater following the period after a user would end a transmission through the repeater, but before the repeater transmitter drops.

A request for a service call to Northway Communications in Wausau was placed through the Taylor County Office of Emergency Government, and technicians checked out the repeater system on 6/12/2000. The only problem they found was a loose connector, at the preamp, on the receive side of the repeater, and that was corrected. The repeater system itself, including feedline and antenna, was then given a clean bill of health.

We were advised that the problem is most likely an extraneous signal getting into our repeater system from "outside". Therefore, the next step is to try and find some correlation with other nearby transmitted signals and the random degradation of

the repeater receiver's sensitivity. A starting point would be the other transmitters located on the same tower as the repeater. This includes one or more transmitters that are sharing an antenna with us, through a multiplexer.

We are asking all hams in the general vicinity of Medford, who have both a 2-meter rig and a scanner, to simultaneously monitor the 147.15 repeater and these other frequencies, to see if some pattern can be found. This is most easily accomplished when the repeater is in use, such as during the Wednesday night 8:30 p.m. nets. Here are the other transmitter frequencies presently in use on the same tower and/or antenna as the repeater (all in MHz):

152.24 - 152.48 - 155.565 - 461.325 - 466.325 -

6,810.0 - 6,845.0

Reports should be forwarded to N9GHZ at <muzikman@pcpros.net> or to P.O. Box 452, Abbotsford, WI 54405.

Wisconsin Nets Association Ltd.

Bette Kratz, KF9ZU, Secretary
950 E. Trout Valley Rd. • Friendship WI 53934-9672

WISCONSIN NETS

| Net | WNA | Freq. | UTC | CDT | Manager |
|---------|-----|---|--------------------------|------|---------|
| BWN | Yes | 3985 | 1100 | 0600 | W9RCW |
| BEN | Yes | 3985 | 1700 | 1200 | KE9VU |
| WSBN | Yes | 3985 | 2230 | 1730 | WB9WHQ |
| WNN | Yes | 3723 | 2300 | 1800 | KB9OCZ |
| WSSN | Yes | 3645 | 2330 | 1830 | N9BDL |
| WIN/E | Yes | 3662 | 0000 | 1900 | WB9ICH |
| WIN/L | Yes | 3662 | 0300 | 2200 | W9UW |
| RCRA | No | 01/61 (Mondays CDT) | 0030 (Menomonee Area) | 1930 | KA9OMC |
| Gr. Bay | No | 72/12 (Green Bay Area) | 0245 | 2145 | WB9NRK |
| ARES | No | 4.65/5.25 (South East/South Central Wisconsin) | 0200 | 2100 | |
| RACES | No | 3993.5 (LSB Sunday) | 1400 | 0900 | WA9OAY |

WISCONSIN STM REPORT JUNE 2000

What I learned in June:

There's always something to learn in Ham radio, and nets, traffic handling, and general operational skills are no exception. In June, I made some observations and I found out more about the hobby and myself.

Thanks to K9ZZ, I learned that I should proofread more carefully when I write these notes. In CW net protocol, the signal for "Net Stand By" is QNE. So, although they are said in words on phone nets, maybe this is a good time to review the net QN signals since they are typical directions from net controls. Here they are.

QNA: Answer in pre-Arranged order
QNB: Act as relay Between .. and ..
QNC: All net stations Copy
QND: Net is Directed
QNE: Entire net stand by
QNF: Net is Free
QNG: Take over as NCS
QNH: Your net frequency is high
QNI: Stations check in to net
QNJ: Can you copy me?
QNK: Transmit message for .. to ..
QNL: Your net frequency is Low
QNM: You are QRMing the net. Please stand by.
QNN: Net control station
QNO: Station is leaving the net (Out)
QNR: Answer .. and receive traffic
QNS: Following stations are in net .. (list)
QNT: I request permission to leave the net
QNU: The net has traffic for you. Stand by.
QNV: Establish with .. on net freq. If successful, then move to .. and send traffic for..
QNW: How do I route messages for ..
QNX: You are excused from the net
QNY: Shift freq. to .. to clear traffic with..
QNZ: Zerobeat your signal with mine

In June, I also learned more about hams in general. Maybe it was just me, but I noticed a subtle shift in some of the operations on Field Day. I'm not sure if it was due to a lot of new hams, good mentoring, or education, but I noticed plenty of courtesy on the CW bands where I was having some Field Day fun. Stations were asking if a frequency was in use. They were waiting patiently instead of just adding to the QRM. They were saying thank you. They would adjust their CW speed to the receiving station. I've always known that most hams were nice people, but is this more evident courtesy a trend? I hope so, because it reflects the whole idea of public service and traffic handling. We do it for other people, to brighten their day with a message, to demonstrate the value of Ham radio, and most importantly, to prepare ourselves to assist in times of emergency.

In June, I also checked out our SEC's website for Emergency Coordinators:

<http://www.execpc.com/~skaplan>

I recommend it highly. I listened to a number of severe weather nets and heard excellent net discipline and efficient traffic handling.

Finally, I learned that we can use more help with traffic in Wisconsin. Operators of stations with packet capabilities should let W9CBE know. Teachers of intro courses should mention the public service aspect of Ham radio, specifically,

the section nets.

And, even though it's a busy time of year, our section nets need check-ins, even if it's brief in case there's traffic for your area.

73 - K9LGU / STM

MONTHLY NET ACTIVITY SUMMARY

| NET | QNI | QTC | QTR | SSNS | NM |
|---------------|-------------|-------------|-------------|------------|--------|
| BWN | 1274 | 1678 | 2250 | 30 | W9IHW |
| BEN | 436 | 70 | 698 | 30 | KE9VU |
| WSBN | 470 | 26 | 725 | 29 | WB9WHQ |
| WNN | 107 | 22 | 331 | 30 | KB9ROB |
| WSSN | 188 | 21 | 314 | 30 | N9BDL |
| WIN/E | 202 | 67 | 290 | 30 | WB9ICH |
| WIN/L | 189 | 61 | 284 | 30 | W9UW |
| Totals | 2866 | 1945 | 4892 | 209 | |

STATION ACTIVITY SUMMARY June 2000

| STATION | ORIG | RCVD | SENT | DLVD | TOTAL |
|---------|------|------|------|------|----------|
| K9JPS | 1 | 556 | 30 | 508 | 1095-BPL |
| W9RCW | 0 | 368 | 2 | 362 | 732-BPL |
| W9PY | 0 | 281 | 312 | 0 | 693-BPL |
| W9IHW | 2 | 283 | 32 | 256 | 573-BPL |
| WZTV | 0 | 276 | 26 | 260 | 562-BPL |
| N9TVT | 0 | 89 | 283 | 0 | 372 |
| K9GU | 0 | 105 | 19 | 102 | 226-BPL |
| W9CBE | 0 | 80 | 92 | 5 | 177 |
| N9BDL | 0 | 34 | 71 | 4 | 109 |
| N9CK | 0 | 44 | 44 | 0 | 88 |
| K9FHI | 0 | 25 | 50 | 6 | 81 |
| W9UW | 0 | 48 | 31 | 0 | 9 |
| W9YCV | 0 | 25 | 30 | 14 | 69 |
| K9LGU | 0 | 52 | 15 | 1 | 68 |
| AG9G | 0 | 6 | 50 | 0 | 56 |
| N9KHD | 0 | 25 | 30 | 1 | 56 |
| KE9VU | 0 | 19 | 31 | 0 | 50 |
| KA9FVX | 0 | 1 | 35 | 0 | 36 |
| AA9BB | 0 | 4 | 29 | 0 | 33 |
| KB9ROB | 0 | 29 | 3 | 1 | 33 |
| W9BHL | 0 | 0 | 29 | 0 | 29 |
| WB9ICH | 0 | 23 | 5 | 0 | 28 |
| K9HDF | 0 | 0 | 25 | 0 | 5 |
| KA9BHK | 0 | 1 | 10 | 1 | 12 |
| WD9FLJ | 2 | 3 | 4 | 3 | 12 |
| W9PVD | 0 | 0 | 1 | 0 | 1 |

P S H R SUMMARY JUNE 2000

| CALL | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | TL |
|--------|----|----|----|-----|---|----|----|----|-----|
| K9JPS | 40 | 24 | 24 | 512 | 1 | 10 | 0 | 0 | 611 |
| W9RCW | 35 | 3 | 0 | 362 | 0 | 30 | 0 | 0 | 430 |
| K9FHI | 60 | 24 | 24 | 6 | 0 | 30 | 0 | 30 | 174 |
| W9YCV | 60 | 24 | 24 | 14 | 0 | 20 | 0 | 0 | 142 |
| N9BDL | 60 | 24 | 24 | 4 | 0 | 30 | 0 | 0 | 142 |
| W9CBE | 60 | 24 | 24 | 5 | 0 | 20 | 0 | 0 | 133 |
| K9LGU | 60 | 21 | 24 | 1 | 0 | 20 | 0 | 0 | 126 |
| WD9FLJ | 36 | 0 | 24 | 3 | 2 | 20 | 10 | 30 | 125 |
| AG9G | 60 | 24 | 18 | 0 | 0 | 10 | 10 | 0 | 122 |
| N9TVT | 60 | 24 | 24 | 0 | 0 | 10 | 0 | 0 | 118 |
| KA9FVX | 60 | 6 | 0 | 0 | 0 | 10 | 0 | 0 | 76 |

Tomahawk 6-meter repeater antenna improved

On July 15, the Tomahawk 52.830/51.130 six meter repeater's antenna was moved up about 40 feet. The repeater requires PL of 114.8 Hz.

The group would like to hear reports of the range of the system. If you're already familiar with the machine, and can tell if there's a difference from before, they'd like to know how the coverage has changed. They are interested in mobile and distant base station reports as well. Please tell them what you are running - gear, power, and antenna.

Please send reports to Matt Baumann, N9NMH, (715) 848.9403, or email him at mbaumann@dwave.net.

The Racine Megacycle Club



Club Station W9UDU • Racine, WI
Don Parkinson, KB9HAM, Secretary
c/o RMC • P.O. Box 3 • Racine, WI 54301-0003
e-mail: w9udu@wi.net
Web: <http://www2.wi.net/~hamradio/>
Voice mail: (414) 552-6RMC • ARRL Affiliated
Providing communications for American Red Cross and ARES



Meeting was brought to order on July 10th at 7:30 p.m. by President Robert Burgermeister. Bob summarized the Field Day that the club had approximately 700 contacts, of those 300 CW contacts, totaling around 1000 points. He mentioned that we were not after the contest points during Field Day. We were there to have fun and take advantage of the situation. Some improvements were implemented or noted:

- Rotor was fixed with new cable installed.
- Cleaned up the old junk coax around the base of the tower and found out that it was good.
- Randy, KB9UGG, was up on the vertical tower checking on the condition of the tower and trying to straighten the vertical. He found that the tower has some cracks and need to be replaced.
- The vertical antennae on top of the tower had problems. It will require disassembling it, fixing it or replacing it.

All of this was done before we began operating on Field Day. It was well worth the time and effort to have Field Day at the Red Cross Center and checking over the equipment. (We didn't miss the mosquitoes, either.) There wasn't a big turnout at Field Day, but we had around 20 people who participated. There were a few who stayed for the whole time.

We had one unfortunate situation during the event. An HT was stolen at the site. A police report has been filed. It was discussed at the board meeting a week ago and some sentiment was felt that the club feels responsible. President Robert asked the members present of how they felt as a club in the decision of the board of the club replacing it (Kenwood Model: THG71A Serial: 300279.)

The minutes were then read by Don Parkinson (KB9HAM), Secretary, and a motion to approve the minutes by Dan Miller, KA9OIL, and seconded by Tammy Gardner, KB9SXI. Minutes were approved by all.

The treasury report was stated by Greg Holding, KB9RMA. It was moved to accept the treasury report by Phil, KC9IS, and seconded by

Dan, KA9OIL. All members present approved the treasury report.

Announcements

Greg, KB9RMA:

• Chicago FM Club is having a Radio Expo 2000 on September 23 and 24. More information can be found by going to the website www.chicagofmclub.org.

• Pres. Robert, W9EH: Picnic is planned for August. Checking by those present if anyone is interested. Stayed tuned and see what happens.

• September Meeting Program Topic: Rees has the owner of the tower on KR & 31 who will speak about his tower and what it took to get it up, along with all the trials and tribulations.

Old Business

Dan, KA9OIL, brought up the P.O. Box and whether anyone has checked for any incoming mail.

New Business

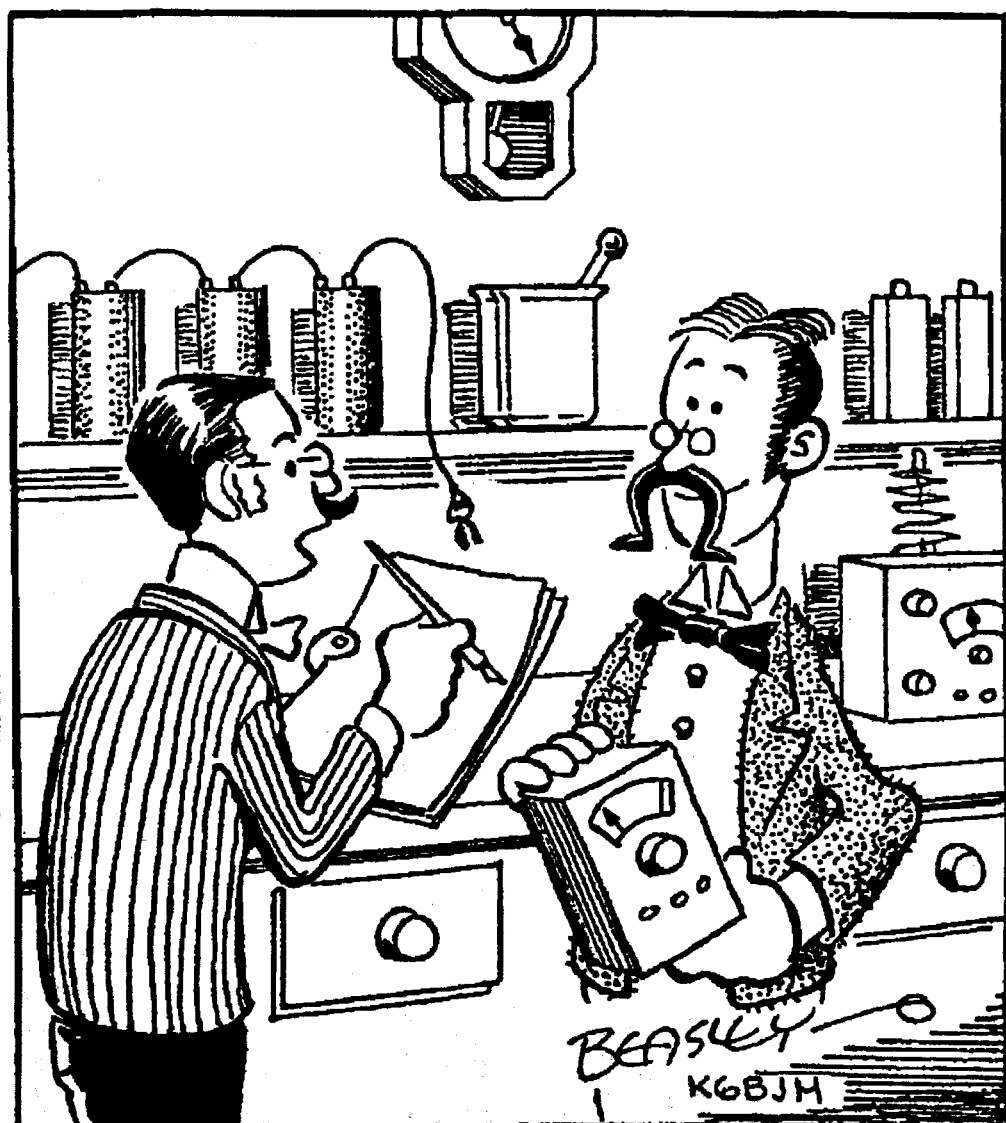
Dave, K9DQ: A Fox Hunt will be this Friday at 7 p.m., July 14th. Dan, KA9OIL, and Dave, K9DQ, will be the foxes. It will begin at the Regency Mall.

KA9OIL suggested that the club purchase a CW reader for next year for those new amateurs during Field Day practice.

President Robert Burgermeister, W9EH, asked for someone to entertain a motion that the club replace Greg's radio. A motion was presented by John Weeks, AA9XD. Seconded by Dan, KA9OIL. John, AA9XD, felt that anyone who should bring their equipment to a club meeting should not have to fear of bringing it to any function.

Dan, KA9OIL, stated that if it is replaced, two things should take place:

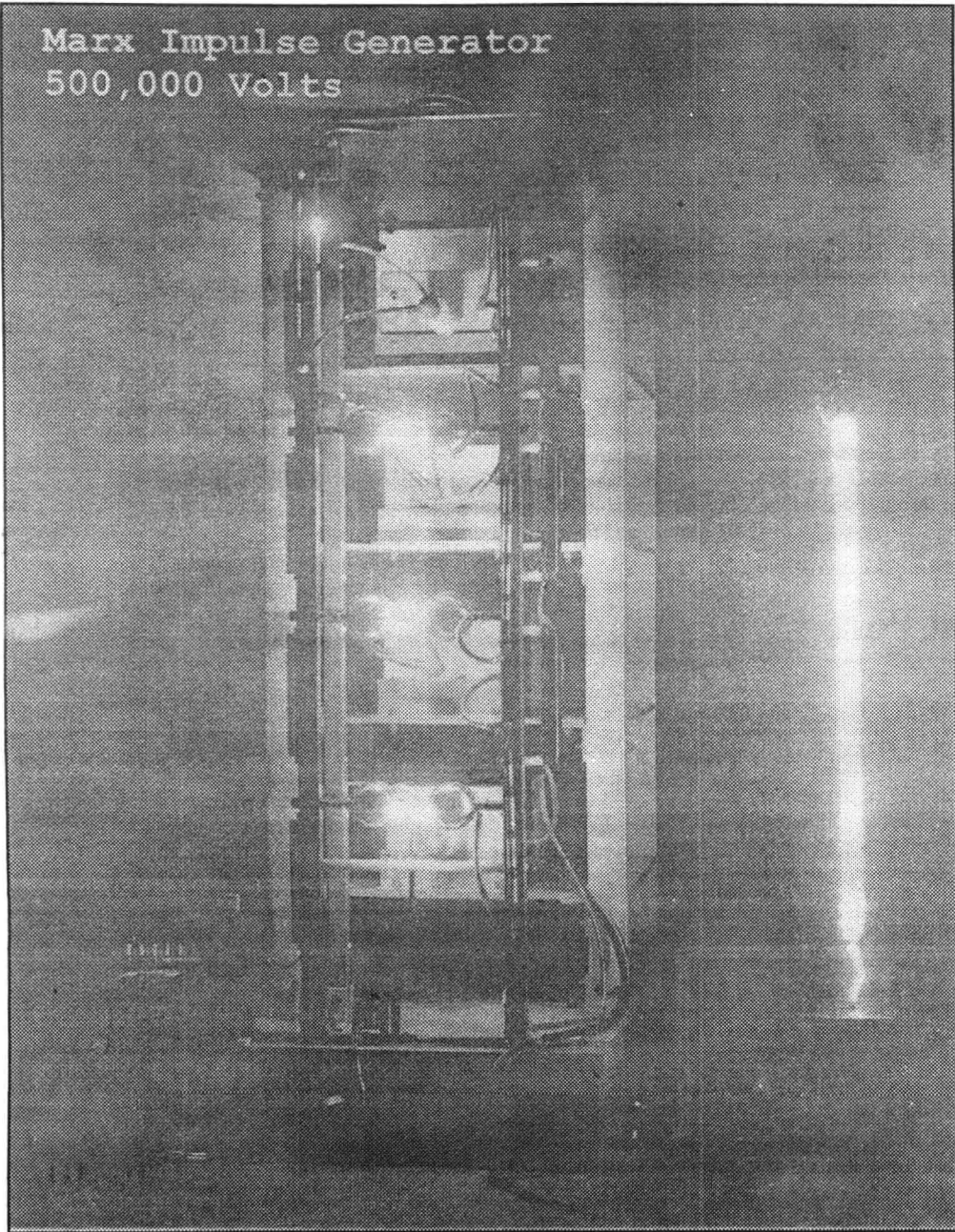
Continued on page 9



ALLRIGHT, MR. OHM, WE'LL NAME THE UNIT OF ELECTRICAL RESISTANCE AFTER YOU---NOW WHAT SHALL WE USE FOR A SYMBOL?

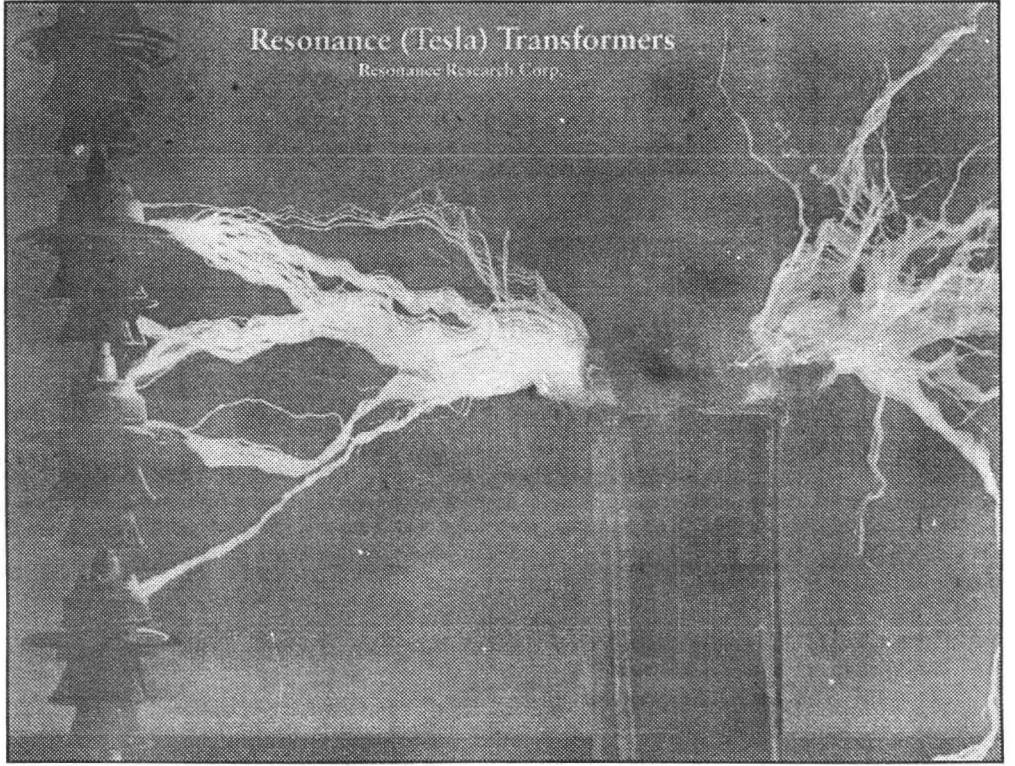
Resonance Research Open House

Marx Impulse Generator
500,000 Volts



In this Marx impulse generator, a bank of 2 microfarad capacitors is charged in parallel. After being fully charged, they are discharged in series using spark gaps as high-speed switches.

Resonance (Tesla) Transformers
Resonance Research Corp.



This Resonance Research Tesla coil generates a moderate 1,000,000 volts. They are available in "larger" sizes.

Photos courtesy D.C. Cox/Resonance Research Corporation

ARISS is on its way

Continued from page 4

a significant amount of patience, persistence, and hard work by all the ARISS team members and the space agencies all over the world.

Events that occurred the last week in July include:

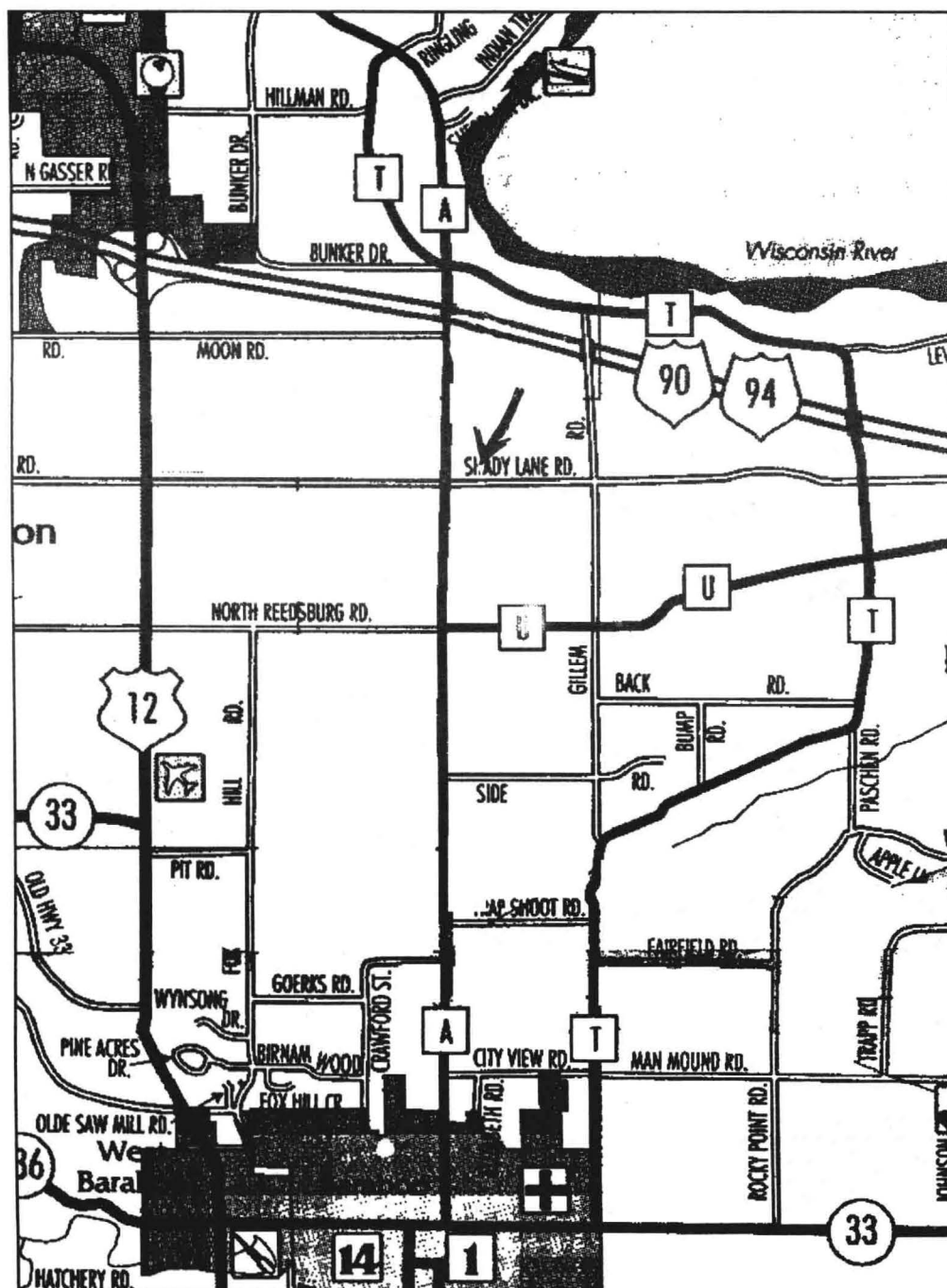
- The launch and docking of the Service Module, which will eventually house the ARISS station.

- The successful completion of a series of tests in Moscow. It should be noted that Lou McFadin, W5DID, from AMSAT-NA, Carolyn Conley, KD5JSO, from NASA, and

Sergej Samburov, RV3DR, from AMSAT-RU, were instrumental in making these successful tests happen. These tests included RF and power-up tests in the flight equivalent FGB Module at the Kurnichev facility. As a result of the testing, the Russian teams (Energiya and Kurnichev) have concurred that we are ready for launch.

- The approval by NASA of our flight safety package. The final certificate of safety compliance was signed in late July. The NASA safety team at John Space Center gave the approval for launch on STS-106 of the ARISS hardware which is stowed within the primary payload, Spacehab.

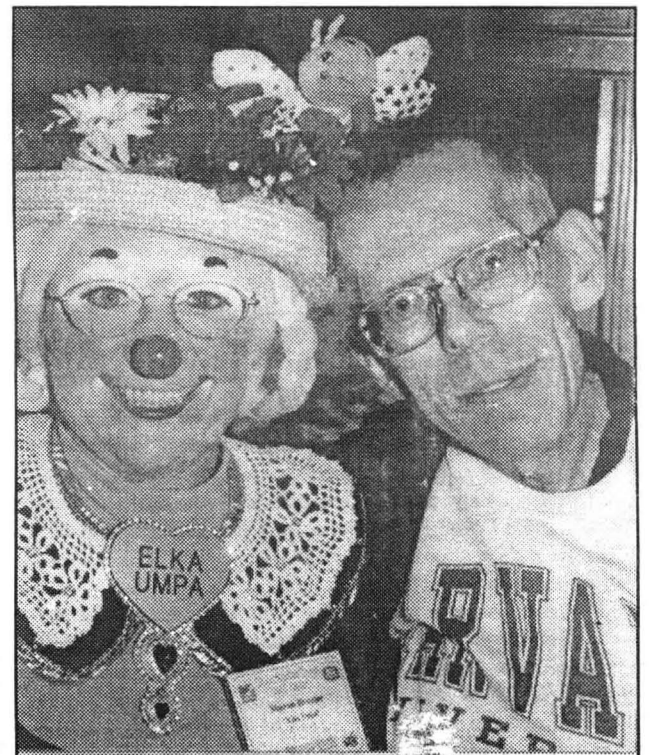
*From an AMSAT post by
Frank Bauer, KA3HDO
AMSAT-NA Vice-President
for Human Spaceflight Programs*



The open house will be on Shady Lane Road, just east of Sauk County Highway A, as indicated by the arrow.

Hamming it up, clowning around

During a break from operating W9G on the Great Circus Train, your editor took some time for taking photos - and having one taken. The clown is Elka Umpa from Milton, Wisconsin. Your editor took more than 125 photos on this year's Journey of Joy from Baraboo to Milwaukee.



In July, the BSSS web site had more than
15,000 hits and had visits from 25
countries.

Check us out at

<http://www.bsos.org>



THE WISCONSIN PACKETEER

Wisconsin Amateur Packet Radio Association

Allen Schnepf, NØGMJ, Treasurer
Ogema, WI 54459

Andy Nemec, KB9ALN, Editor • 453 Cottage Grove Avenue • Green Bay, WI 54304 • e-mail: kb9aln@juno.com

WAPR News - August, 2000

by Andy Nemec, KB9ALN

Hello and welcome to the Dog Days of summer. I do hope you have fared well and are enjoying your summer.

There is not too much news to report this month. Probably a by-product of the good weather we have (occasionally) had. But there are a few things to report.

First off, Joel, N9BQM reports that he is working on scheduling a September meeting for WAPR. It will be held in Pittsville, but a date has not been set just yet. We will get the word out as soon as we can as to date, time and place of the meeting.

The last few months I have asked for comments concerning limited use of 145.010 at 9600 bps. To date, only one person has answered. Leon Anderson, N8WQG in Crystal Falls, Michigan has mentioned that the folks in the U.P. would like to use this frequency for long-distance linking at 1200 bps. The terrain of the U.P. does not lend itself to the line-of-sight paths that are required for UHF operation, so they feel that their best bet is to use 145.010.

If we all cooperate and do this right, there should be no interference problems for anybody. We will take note of this and make certain that none of the proposed Wisconsin links interfere with the operations in the U.P.

Of course, if you have any comments on the matter, please send them to our Chairman Joel N9BQM via the BBS network at:

N9BQM@N9BQM.#CWI.WI.USA.NOAM
You can also send them via internet to him at:
jpapke@badger.tds.net

In other news, the packet station at the National Weather Service in Green Bay has another neat feature to aid weather spotters. Al, KB9BYQ has begun to forward us forecasts and warnings that he receives via the internet. They are stored in a message area called "weather" on the BBS. They appear as conventional messages that can be listed and read just like any other message on any other BBS.

It may sound weird that we are getting messages like this from the internet when the packet station is located at the forecast office where the forecasts are generated. The reason is simple - in order to get them from that office, we would have to be connected into their network. The hardware that is installed in the office does not have an open connection port for us to do this, so we have to rely on a rather roundabout way to acquire these messages. But this does not seem to cause any problems: the forecasts, warnings and hazardous weather outlooks arrive in a timely fashion, suffering no real delays.

By the way, if you are interested in getting this service via E-Mail to your internet mail account, go to:

<http://WeatherGuys.com>

There's information on how to subscribe. It is free, which makes it especially appealing.

One more word for this month's report. Have you remembered to renew your WAPR membership? WAPR needs your support to manage the Wisconsin Packet Network and perform frequency coordination duties. As a member of the Mid-America Coordination Council, we are the official packet radio frequency coordination body for the state of Wisconsin. But we can't do it without your help.

Please consider joining WAPR to help manage and promote network growth. You can join with or without a subscription to the Badger State Smoke Signals. Membership is currently at \$20 per year with the BSSS, \$15 without. This is likely to increase as our costs have been rising steadily during the last several years and the membership cost has not. So if you want to get a real bargain, join soon, before the cost of membership increases to help us deal with the rising costs our organization is encountering. You can mail off your dues to:

Allen Schnepf, NØGMJ
P.O. Box 558
Ogema, WI. 54459-0558
Make any checks payable to the Wisconsin Amateur

Packet Radio Association, or WAPR. And Thank-You for your support!

That's all we have for this time out. Remember, I am always looking for news of interest to print here. If you have anything you'd like to share, contact me through one of the addresses at the top of the page.

Until next time, 73 from Andy.

The Lowly Serial Port

by Andy Nemec, KB9ALN

One of the most often overlooked, even neglected parts of our computer and packet radio systems is the serial port. While a lot of other computer hardware is visible on the front panel, and in many cases decorated with a feature list on the faceplate, the serial ports are buried deep within the computer. The only physical indication showing they exist is a 9 or 25-pin DB connector on the rear of the computer. However, this is what allows us to communicate with the outside world, and we may forget just how important this innocuous device is for our operation.

Serial Ports and the RS-232-C Standard.

Serial ports are no exception. In order for a TNC to work with any type of computer, it has to be standardized.

In the modern PC, there is at least one type of serial port, and it meets the RS-232-C standard. This allows you to replace your computer with another one, while not having to replace the TNC or other device that needs to communicate with your computer. This is what standards and protocols are all about - some measure of universality in a computing world filled with many manufacturers and many choices.

What is RS-232-C?

Serial communications, which can take place at different speeds (baud rates), conform to a standard worked out

from the earlier days of computing called "RS-232". This allows not only for serial communications, but in a somewhat universal manner.

In the case of serial communications, RS-232 specifies that the digital Zero is represented by a +12 volt signal on the serial line, and the digital number One is represented by a -12 volt signal on the serial line. This is much less ambiguous to electronic circuitry than using, for example, a transition between 0 and 5 volts as indicators of digital Zero and digital One. It also makes the serial line less prone to noise and other disturbances.

Aside from the voltages used, the RS-232 specification also includes a number of other control lines. Here's a run-down on the most common of the RS-232 signals and what they do:

TXD - This is the data coming from a device, being transmitted to another device.

RXD - The opposite of the TX Data, it is data that a device is receiving. **RTS** - This is the "Request to Send" signal. A device signals via this line asking if it is OK to send data.

CTS - "Clear to Send". This is sent in acknowledgment of an RTS signal, provided that the device is not busy.

DSR - "Data Set Ready". This means that the peripheral device is operating and is ready to accept data. **CD** - "Carrier Detect". This line indicates when a data carrier is present. This is much like the DCD light on your TNC.

DTR - "Data Terminal Ready". This indicates that the "terminal" (or device emulating a terminal, such as a computer) is ready for operation.

WISCONSIN AMATEUR PACKET RADIO MEMBERSHIP APPLICATION

PLEASE PRINT:

NAME: _____ CALL: _____ HOME PHONE: (____) _____

ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____

HOME BBS: _____ FREQ: _____ (Listing your home BBS is important)

MY PACKET STATION OPERATES: _____ DAY _____ NIGHT _____ 24 HOURS

I OPERATE A: _____ DIGIPEATER WITH AN ALIAS OF: _____

_____ FULL SERVICE BBS

PRIMARY PACKET INTEREST/EXPERTISE IS: _____

_____ YES: I want to receive Badger State Smoke Signals and I understand that part of my dues will go to pay the subscription. Cost \$20.00.

_____ NO: I do not wish to receive Badger State Smoke signals as part of WAPR membership. Cost \$15.00.

Complete and return this form with your check or money order — \$15.00 for membership only or \$20.00 for membership and Badger State Smoke Signals, made payable to W.A.P.R. to:

Allen Schnepf, NØGMJ, Treasurer,
W5000 SR 86
PO Box 558
Ogema, WI 54459

RI - "Ring Indicator". This makes the "beep" sound on a terminal or a terminal program. In the old days of dumb terminals and teletype machines, it actually made a bell ring.

There are other signals used in the specification (such as secondary data and control signals), but they are not commonly used.

The commonly used signals are not only used to transmit the actual data, but to provide "flow control" between the computer and peripheral devices. This allows data to flow only when it can be processed, rather than having to "throw away" data that cannot immediately be processed by a device.

Different Types of Serial Cards

Most packet radio TNCs use your serial port to communicate with your computer, so by now you have probably realized that it is important to have a serial port that operates correctly. It's more than a world of good vs bad, it's also a world of "how good" a serial port is. There are some subtle things you should know about a serial port.

There are different types of chips that have been used over the years, and they vary in performance. The best choice for a replacement serial port is the 16550 or 16550A chip.

Some versions of the 16550, and all versions of the 16550A chip use FIFO buffering. FIFO means "First In - First Out". This means that data coming into the serial port is put into a temporary memory buffer so that communications can take place at high speed without waiting for the computer (or peripheral) to process it. This is the most preferred chip for serial ports and virtually every modern serial card (or combination card with one or more serial ports) uses this chip.

If you ever need to replace a serial port, make certain that it has FIFO buffering for more reliable serial communications.

It Works, It Must Be Good, Right?

Nope. Not always. Here's a good case history of my own experience with a bad serial port on our BBS computer.

I had a port go bad due to a power outage and found another used one in the junk box to replace it. I fired it up and once again, the TNC was able to communicate with the BBS computer.

Everything was fine for a few hours, and then I noticed that the TNC was no longer communicating with the computer. In the course of troubleshooting, I hooked the TNC up to another computer and fired up the old faithful terminal emulator program to see what was going on.

The BBS program wants the TNC to be in KISS mode for proper operation. Well, I found that the TNC was no longer in this mode and that is why the BBS was not operating correctly. The TNC was in terminal mode instead. I removed the battery jumper on the TNC to clear any "junk" from its memory, and then set the TNC up again. I figured some kind of fluke or gremlin was responsible. 5 hours later, the same thing happened again. Of course this was entirely too coincidental and needed some further investigation.

What I found was that the serial port I had just replaced was bad. It was throwing out random junk that confused the TNC and caused it to exit the KISS mode. Another junk-box serial port was installed, and so far all is well.

There are other problems that can crop up due to a defective serial port. For example, suppose you run a KPC-3 and use Hostmaster in your packet radio exploration. If you get a message stating that the program cannot establish or maintain communications with the TNC, yet it works fine with the simple terminal program Pacterm, suspect the serial port. The same can happen with any other "host" program such as Pakratt, MFJ host, TST host, or SP, to name a few.

Don't Forget The Cable!

One often overlooked item is the cable that connects the TNC and Computer together. Cheap pre-made serial cables are not the best choice for your interconnection for a couple of reasons.

First is durability. I have had a number of these break without provocation.

Another is RF interference. We as hams are always looking to get our RF environment quieter, and some cheaply made cables are remarkably shy on shielding, allowing computer-generated noise to pollute our environment. A better shield is also helpful in preventing nearby lightning-strike induced damage to the serial port and TNC. Obviously, it will not help if your system suffers a direct hit.

That being said, it is best to purchase a length of high-quality well-shielded cable and connectors, and fabricate one yourself. If you're not too comfortable doing it yourself, enlist the aid of someone who is. You'll have a quieter shack and a more reliable connection if it's done right.

Conclusion

Don't forget the lowly serial port when you are experiencing TNC-to-Computer communications problems. It's so easy to take proper operation for granted, and have a heck of a time troubleshooting our stations as a result.

In the future, we will probably see TNCs using the new USB (Universal Serial Bus) port technology. As of now, I am not aware of any product using this technology, but it is likely that we will see this soon.

That's all for this time out, until next time, 73 from Andy.

Yellow Thunder Amateur Radio Club



WB9FDZ (Original Club Call)
K9ODK (Robert L. Prine Memorial Call)

Leonard Wagner, N9XJG, Secretary
E10262 Hootowl Drive • Baraboo, WI 53913



(Continued from page 3)

THE TEST POINT

Examiners and Volunteer Examiner Coordinators can collect during calendar year 2000 is \$6.66. The ARRL/VEC has set its 2000 test fee at \$6.65. A \$6.65 fee will be collected from applicants seeking to upgrade using a physician's certification to waive the Morse code examination.

FCC requires applicants to show their original amateur license or CSCE to the VE team. You must also have a good copy of your license or CSCE. A copy of your license or CSCE must be attached to your FCC form 605 and most VE teams need a copy for their records. One good CSCE copy is sufficient. You are also required to have a photo ID, or two other forms of ID. Contact the VE team for details. Technician class licensees must show proof of testing before March 21, 1987, in order to upgrade to General with a code test only, starting April 15. Proof must be either in the form of a pre-3/21/87 license document or a "Letter of Verification of Technician License Held Prior to 1987" as requested in writing from the FCC, 1270 Fairfield Road, Gettysburg, PA 17325-7245.

For those with internet access, a listing of exam sessions is available from:

<http://www.arrl.org/arrlvec/examsearch.phtml>

By checking this page, you can find registered VE sessions anywhere in US and some overseas. You can search by country, state or zip code. The listing is not specific to any particular VEC. It is a master database.

Thanks to Bart Jahnke, W9JJ, ARRL/VEC

This section of Badger State Smoke Signals is available to publicize your Volunteer Examiner Amateur Radio license examination schedules. Please send us your schedules of dates, times, and locations that you will be conducting examinations and we will include the information here. Be sure to include contact address and any other necessary requirements. Information should be sent to Ken Ebner, K9EN at the address on page 2 or to:

kenbner@palacenet.net

MORE WORDS OF WISDOM:

Black holes are where God divided by zero.

Wear short sleeves! Support your right to bare arms!

To err is human, to moo bovine.

All those who believe in psychokinesis raise my hand

Friends may come and go, but enemies tend to accumulate.

There's an exception to every rule, except this one.

THE BARGAIN MODE

SSB

SELL SWAP BUY

OUR WANT ADS GET RESULTS

FOR SALE: Kenwood TS940S/AT HF xgr with MC-60A, VS-1 and SP-949. Excellent condition. \$1100.00. Jack Borkenhagen, NS9B (920) 976-3215.

There was no meeting scheduled for the Yellow Thunder Amateur Radio Club for July 2000. The next scheduled meeting of the club will be August 1, 2000.

Lew "Mac" McCoy, W1ICP Silent Key

QST de W1AW
Special Bulletin 13 ARLX013
>From ARRL Headquarters
Newington CT August 2, 2000
To all radio amateurs

SB SPCL ARL ARLX013
ARLX013 Lew "Mac" McCoy, W1ICP, SK

Amateur Radio legend and former ARRL Headquarters staff member Lew "Mac" McCoy, W1ICP, of Mesa, Arizona, died July 31 following a lengthy illness. He was 84.

As a member of the ARRL Headquarters staff from 1949 until 1978, McCoy gained a national and international reputation primarily for his articles in QST and his early work to combat TV interference. "He became a hero of all the Novices and beginners because his stuff was so down to earth and easy to read," said retired ARRL Communications Manager George Hart, WINJM, a good friend.

ARRL Executive Vice President David Sumner, K1ZZ, described McCoy as "one of a kind" and "versatile." Sumner said McCoy "left his mark on future generations of amateurs as QST's 'Beginner and Novice' editor." When FM repeaters came along, Sumner said, McCoy made it his mission to educate his ARRL colleagues about their potential.

An ARRL Life Member, McCoy was first licensed as W9FHZ and later became W0ICP. He arrived at ARRL Headquarters in 1949 to fill the job of assistant communications manager for phone. He went on to work in the Technical Department where he was able to take advantage of his ability to explain technical concepts in simple terms.

McCoy earned a reputation as a tireless traveler and goodwill ambassador for Amateur Radio. He first started hitting the road in the early 1950s after TVI had become troublesome for amateurs and soon became the League's TVI expert. McCoy toured the country demonstrating TVI cures for hams and TV service personnel alike.

ARRL Lab Supervisor Ed Hare, W1RFI, credited McCoy with providing the foundation for the ARRL's current RFI expertise in helping hams to deal with interference to consumer equipment and interference to hams from other sources. McCoy also was well-known for one of his projects, "The Ultimate Transmatch," an antenna tuner he described in a July 1970 QST article.

After leaving the ARRL Headquarters staff, McCoy continued as a QST contributing editor. He subsequently was a major contributor to other Amateur Radio publications, including CQ.

During his active years on the air, McCoy was an avid DXer with more than 300 countries confirmed. More recently, he was active in the Quarter Century Wireless Association, had served as QCWA president and a board member and had just been elected again to the QCWA's Board of Directors, something his daughters never got to tell him before he died.

McCoy's first wife, Martha, died in 1998. Survivors include his wife, Clara Gibbs McCoy, and his daughters, Marsha Ashurst, WIHAQ, and Sharon Armann, ex-WN1GQR, as well as grandchildren and great-grandchildren.

In accordance with McCoy's wishes, there will be no funeral. The family is planning a memorial service for McCoy in early December.

In lieu of flowers, the family is requesting memorial donations in Lew McCoy's name to Hospice of the Valley, 1510 E Flower St, Phoenix, AZ 85014-5656. Condolences may be sent to the family care of Marsha Ashurst, PO Box 2260, Lakeside, AZ 85929.

Editor's Note: McCoy, during his tenure at ARRL, gave talks about the "Ultimate Transmatch" before many Amateur Radio clubs, including several in Wisconsin. - K9ZZ

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AUCTION

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